

TECHNOLOGIES OF MINING PRODUCTION: SPACE, DISCOURSE, NEW
MATERIALITIES, AND MEDIA

BY

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DISSERTATION

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Abstract:

My dissertation examines how technologies are developed to either sustain or resist the process of mining production in the Chilean Andes. Through the study of the mining company Los Pelambres, I make visible knowledge, skills, and practices that take place in a zone of socio-environmental conflict. In the dissertation, I demonstrate how the mining activity exceeds the zone of extractive operations of a company, studying different sites, specifically the local communities of the Choapa Valley, the zone of extraction inside mine Los Pelambres, the museums operated or funded by the company, and local and national media outlets. I approach these sites as mediums, where knowledge and meaning-making processes transform materialities and discourses.

I study the political, extractive, and popular technologies of mining, and demonstrate how even some seemingly anti-technological practices of resistance contain technical dimensions. To articulate the nuances and richness of the technological process of mineral extraction, I use multi-sited ethnography, critical ethnography, performance, and critical discourse analysis as complementary methodologies and theories, and I use them for their politics and application in archival research and fieldwork. Through these methodologies, I work toward re-drawing boundaries of mining production and the visualization of the fluidity of the mining system in itself.

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Knowledge makes sense when it is performed for others.

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PREFACE

At the end of 2009, while preparing to move to the United States to begin a PhD program in Communications, I received an invitation to move to Cuncumén to lead a communication committee, as part of a major turn in the relationships between the mining company Los Pelambres and local communities. Cuncumén is a small town at the end of the Choapa Valley, right next to the Andes and just below the Los Pelambres' facilities. From Cuncumén, you can see the tail dam that stores the toxic residues produced by the company's mining operations. The air is choked with visible dust that was formerly mountain terrain, recently blasted into the atmosphere. This is a town with one main street, proud cowboys, plenty of fruit trees, an intense blue sky, one school, a minor health services center, and many red pick-up trucks used in the mine's operations. Snow falls in winter, while intense heat comes to the hills in summer. When I sleep in Cuncumén, I can hear the sound of the creek.

In 2008, I first met some community members of the Valley when they were visiting Santiago to participate in a workshop organized by the non-profit organization *"Ciudadanía y Gestión Pública,"* where I used to work as a journalist. Since then, I also started to work for the non-profit *"Participa"* in the development of a project primarily funded by OXFAM. We focused on supporting the actions of different organizations that were fighting against the violation of their human rights by big companies in different regions of Chile. After two years of work, I volunteered for the *"Organización Ciudadana Ambiental de*

Salamanca,” helping to install a community radio and to run some workshops on issues connected to communications and human rights in Cuncumén.

After several strikes, media appearance, and growing tensions, Los Pelambres and representatives of the Choapa Valley communities agreed to a *“marco de acuerdo,”* an agreement in which both parties compromise and collaborate to alleviate the pollution of the valley, as well as to take care of other social problems that the communities were facing. Not everyone was on board for the agreement at that time (or even now), but a major group of leaders of the valley made the decision to pursue a new way to communicate with the company - especially after the state failed to intervene in the situation. My invitation to move to Cuncumén was offered in this context - my salary would have been paid by funds contributed by Los Pelambres, but my direct boss would have been a community member who led the new community’s structure. I also would have had to work with professionals of the company while organizing actions with local community members.

I declined the invitation, since I was ready to move to the United States, but I received a counter offer: they invited me to keep working with them as long as I worked toward my PhD. Since that was what I wanted to do, I told them right away that my research would be about mining. We agreed, and a year later I was back to begin my fieldwork. Since then, nearly five years have passed, and my research has evolved from considering citizens’ participation to exploring technologies of mining production, looking at the process of mining not only from

the extractive activities, but also seeing it as a system of production spread across different sites, including museums and media outlets.

In the following chapters we will visit the Choapa Valley, talking to different actors that are part of the ongoing conflict between Los Pelambres and local communities. We will also look at media archives and the presence of museums operated or funded by the company. Over these years of research, many documents have been collected, along with field notes of my visits and interviews. All of these materials infuse the chapters. In the introductory chapter we will find a theoretical and methodological contextualization of the research and the beginnings of an historical reconstruction of the conflict, which will help to illuminate the fluidity of the mining system. The second chapter, “Sustainability and Resistance,” aims to explore the extension and impact of a sustainable development discourse that operates as part of the extractive technologies of Los Pelambres, while also considering the new knowledge and skills emerging to resist and subsist in the territory. The third chapter introduces us to the use of museums as part of the mining operations; titled “Visible Materialities: Museums as Extractive Technologies for Mining,” this chapter analyzes how public memory and scientific narratives are mediated by these institutions. In the fourth chapter “Mediation, Representation, and Resistance,” the main focus is the company's use of communications and media to sustain its presence, while local communities use it for different purposes. In the fifth chapter, “Positionality and Feminist Practices in the Andes,” methodologies and the researcher's

performance are analyzed as a social justice practice, from the perspective of the “I.” In the conclusion, we will connect the dots of the different parts of the system, making visible values and technologies in the process of mineral production in the Chilean Andes.

CHAPTER 1

INTRODUCTION

“I think it is shipped to the Japanese, the Chinese, they are the ones who buy it. Chile is making a lot of copper and still they say that’s not enough, that they need more copper, because it exists in abundance and for sure they use a lot of copper. I don’t know what they do with it, because they process it there. I haven’t been to the plant in Los Vilos, where the concentrated copper arrives, it’s dehydrated there and then they ship it to the copper foundries.”

(Interview, Cuncumén, 2012)

“At first we faced power, the State, an unbreakable wall. Then we made an agreement to work with the mining company; we have gained things, but not what we would like.”

(Interview, Cuncumén, 2012)

The Fluidity of the Mining System

On October 26th, 1999, the Economy and Business section of the newspaper El Mercurio published a two-paragraph article, “*Minera Los Pelambres Inicia Puesta en Marcha*” (“*Los Pelambres Mine Begins Commissioning*”). In the article, El Mercurio reports that the company was expecting to produce their first “batch” of copper concentrate by November of that year and to ship copper from the mechanized dock Punta Chungo by the beginning of 2000. The company’s initial investment of \$1.36 million (US) gave birth to a project that, according to El Mercurio, has a production expectancy of 30 years (Emol, 1999).

In August of 2014, 15 years later, I take a taxi from Los Vilos to the “*Museo del Cobre y Desarrollo Sustentable*” (“*Museum of Copper and Sustainable Development*”), which is located near the dock at Punta Chungo. The four kilometer ride takes me from the main avenue of Los Vilos to the highway “*Ruta 5*,” which crosses the long expanse of Chile, north to south. Once

there, we turn left and get close to the Pacific Ocean, where a massive blue construction welcomes us. This building is the dehydration center. Here, the copper that has travelled through the Choapa Valley from Los Pelambres, at the top of the Andes, becomes dust and is prepared to be transferred into ships that are waiting at the dock.

The taxi driver, a former policeman, keeps asking me questions about my background and the purpose of my visit. He tells me about his life and his small transportation and housing business, and then we begin talking about how big and visible the port is from the Los Vilos beach. I ask him:

Me: Were people opposed to the construction of the port?

Taxi driver (*sarcastically*): Where the majority makes the decisions... the majority makes the decisions.

Me: Oh, you mean when the powerful people...?

Taxi driver: That's what I'm telling you. In the end, they're going to do what they want, and what can one do? Nothing but work until God says it's your time. What I'm saying is that people didn't have many options.

(Field notes, August 2, 2014, Los Vilos)

I step out of the taxi. In front of me is the museum's coated copper wall and three waving flags: the flag of the mining company Los Pelambres, the flag of Chile, and the flag of the "*Centro Andróniko Luksic Abaroa—CALA*" ("*Andróniko Luksic Abaroa Center*")¹. Behind me, on the other side of the street,

¹ CALA was inaugurated in October 3 of 2006 with the goal of promoting the responsible industrial mining activity and social development. The Museum of

there is a massive eucalyptus plantation that the company uses to recycle the water that is used in the transportation of concentrated copper from the Andes.

In the El Mercurio article about the inauguration of operations at Los Pelambres, the author indicates the broad and complex relationship between the mining company and the territory by acknowledging the vast area of operation, its administration of the natural environment (the Andes for extraction and the Pacific Ocean for transportation), and the technological infrastructure and capital invested in these operations. However, the article fails to mention the communities that live in the territory, or the process in which the mine's infrastructure (such as the Punta Chungo dock) was built. Mediated by the newspaper, stories like the one shared by the taxi driver become part of the social and environmental impacts that are hidden behind the clean flow of mineral production.

This research aims to make visible the technologies developed by the mining industry to sustain its constant process of growth, by elaborating arts of rule that incorporate the local and national population into new forms of subjectivity. These new rules emerge from the reconfiguration of knowledge and skills that has allowed the mining industry to subsist and grow despite multiple resistances. By exploring the historical context of the country, administering science, and reconfiguring nature and vision, among other actions, Los Pelambres transformed the process of extraction into a process of mineral production. This point is central to the exploration of the new role that the mining

industry has begun to develop in the territory. This research will demonstrate the way technologies are performed, indicating a new generation of mining that impacts the structure of the nation-state. My analysis of these technologies is situated in relationships of communication, for two primary reasons. First, this type of study on extractive industries is usually done from economical, historical, anthropological or environmental perspectives; what is common to all these perspectives is the communicational aspect of their relationships. By giving special attention to this dimension, we find new ways to approach the mining industry. Second, about seven years ago, I first entered the field as a journalist. My involvement in the territory has thus always been influenced by the understanding and exploration of communication in the local communities and its extraterritorial extensions. From the construction of a community radio station to the flows of critical information in the territory, my analyses focus on the complex (and sometimes overseen) communicational relationships that constitute part of the conflict and reconfiguration of the mining industry in the Andes.

As part of this experience, through the years, together with the expansion of the understanding of what technologies mean for the mining industry, I also observed how even the most basic understanding of media needed to be expanded, because objects such as rocks, the river, the architectural design of the museums' buildings, became clear channels of historical information that normally would not be associated with the field of communication studies. In this dissertation I make the distinction between media and "mediums," media being means of communications such as radio or television, and "mediums" (in plural)

the objects that conduct informational historicalness, which are produced to become part of the system of mining production. There is a certain construction of the objects that mediate the mining process that distinguishes itself from the use of media, as part of the operations of the company.

In the past, extractivism in Latin America was characterized by the limited role of the state and a great emphasis on the capacities of the market to regulate itself, but today a neo-extractivism led by the Latin American Left has reconfigured extractivism for the pursuit of “continuing progress, based on technology, and nourished by the riches of Nature” (Gudynas, 2010, p. 12), while trying to accommodate social demands inside a neoliberal production process. This research explores the technologies of mining production in the Chilean Andes. In the beginning of this study, I understood technologies as “[a] method for achieving a given aim which includes the use of one or more devices, but also the knowledge and skills which make it possible for the devices to be used” (Barry, 2001, p. 269). However, the data collected suggest that the technologies developed by the mining company Los Pelambres exceed the zone of extraction and take over other forms of society’s extensions. Far from achieving a definitive list of the different types of technologies that inhabit the Andes, this is a novel attempt to group their complexities and values as a system of production. As a result of this exploration, which included the compilation of media archives, documents, and ethnographic fieldwork, three main technologies saturated the analysis; this is how the political, extractive, and popular technologies emerged, which I explain in more detail in the following section.

What are the technologies of mining production?

Science, Technology, and Society studies is not a concept that one can directly translate into Spanish, since the emphasis in Latin America includes its own context and challenges which sometimes transform STS into the study of Science, Technology and Public Policy. According to Lemon and Medina (2014), “this attention to social justice and public policy remains a hallmark of Latin American STS scholarship” (p. 10). However, this focus on social justice in the field of STS theory is also present in other fields. If we look at cultural studies in Latin America, we will also find that its theoretical development has been permeated by social movements and issues of social justice (García Canclini, 2005; Martin-Barbero, 2004; Mato, 2002; Restrepo, 2010; Richard, 2010). When we consider technologies, we need to place them in a territory where their contexts and politics create realities that are beyond a universalist dominant perspective (Chan, 2013), and we need to situate the technologies in a historical genealogy that makes sense within its own territorial practices that are also connected to a global dynamic.

In this research, the central topic “technologies of mining production” evolved organically. At first, during the initial fieldwork in the Choapa Valley, the purpose was to develop a historical reconstruction of the conflict and the strategies of resistance that the local communities developed in relation to the Los Pelambres mine. Then, the idea of the technologies used in different parts of the production process began to emerge as the core issue that linked the historical analysis with practices in which implements and artifacts entangled with

knowledge and skills. As the fieldwork progressed, the core topic became more visible and sophisticated. Technologies reached beyond the extraction process and engaged society in areas such as environmental conflicts, national regulations, and the resistance and survival of local communities. If, for Foucault, the state was the central actor in charge of the political technologies of the individual during the eighteenth century (Foucault, 2001, p. 404), in the twentieth century it has become the neoliberal state and its private-sector appendages.

Popular technologies

Facing oppression and the violation of rights by corporate and governmental elites, resistant communities develop new knowledge and skills to create counter-hegemonic practices that allow a group of resistant individuals to create “new imaginaries” (Zerilli, 2005). If, under governmentality, communities learn to engineer themselves in relation to the interests of a governmental power by disciplining bodies and regulating the population (Foucault, 1984, p. 262), popular technologies can lead to self-determination of the production system and the relationship between people and nature by allowing communities to create their own archives and systems of knowledge production and/or using the existent knowledge from a critical perspective that confronts power and injustice. At the core of popular technologies is the acknowledgement of human rights, the legal responsibility of the state, and the institutions involved in the management of the territory.

The emergence of these new counter-hegemonic subjects is one of the unintended results of the mineral production process. As Barry (2001) notes,

resistance has been equated to the failure of a political system and the knowledge generated has been categorized as part of the “messy practice of governing” (p. 6). However, the resistance and its technologies are not just about the failure of the government, as they are capable of developing their own space and temporalities, and “[m]oreover, it would be a mistake to think that the characteristic forms of opposition that exist within a technological society are necessarily anti-technological in character” (p. 6). Through this research, we will be able to identify how even some seemingly anti-technological practices of resistance contain technical dimensions that allow them to operate and produce new possibilities for their resistance.

Political technologies

In the context of the Chilean Andes, political technologies are the byproduct of a neoliberal rationality. According to Tironi & Barandiarán (2014), who describe political technologies as part of the neoliberal project developed in Chile during the 1970s, “neoliberalism as a political technology draws attention to how this applied knowledge is used pragmatically and purposefully to transform the state and society” (p. 306). Therefore, when speaking about the development of the mining industry in the country, it is necessary to mention the process of neoliberalization of its economy and society. In the 1970s, during the dictatorship of Augusto Pinochet, Chile became one of the breeding grounds of neoliberalism. In the 1990s, this process was further legitimized by the actions of the democratic governments, which continued the administration and expansion of

the same systems imposed during the dictatorship (Carruthers, 2001; Gudynas, 2010).

Companies also adjusted to the new economic scenario after the military coup - the period known as the “rupture” - led to the massive privatization of old public companies and the emergence of new private companies. Also, macroeconomic reforms meant to control inflation and to lower tariffs made companies shift to a model of exportation of commodities. While this occurred at the management level, workers faced the dismantling of unions, leaving them in precarious conditions (Ossandón & Tironi, 2013).

The transformation of the companies was not a spontaneous evolution, it was led by the active participation of economists. The adaptation of Chilean companies was first an adaptation to the economies proposed by the economists of the Chicago School of Economics led by Milton Friedman (Ossandón & Tironi, 2013, p. 19). The neoliberal policies implemented by the “Chicago Boys” served as a technology that established a new relationship between the government and scientific knowledge. Tironi and Barandiarán (2014) argue that this neoliberal knowledge defines, orders and calculates the world while being active, malleable and productive. To understand neoliberalism as a technology offers a “new analytical tool” (Tironi & Barandiarán, 2014, p. 307) that allows us to study the system of mining production and to understand how public issues that are of interest to the mining industry’s externalities are characterized as non-ideological and non-political. Ong (2006) characterizes these sort of cases as countries in

which the role of the state becomes a technology of governmentality that optimizes the privatization of the public sphere.

Extractive technologies

In a neo-extractivist society, the style of development is based on appropriating natural resources to provide primary materials to global markets while justifying this appropriation by redistributing some of its surplus through social policies (Gudynas, 2010). However, Chilean governments have promoted a direct relationship between companies and local communities to solve social needs. To justify the use of nature as a primary productive space, nature is considered a historical artifact that cannot be contested: who can argue against nature's facts? This simple action seems difficult because we tend to assume that nature is the sum of its quantifiable parts, constituting a certain universal truth, but nonetheless nature is articulated through sets of memory practices. These memory practices become memory regimes by creating a continuous process that is formed by technologies and practices that address an ever-changing narrative (Bowker, 2005).

In this scenario, extractive technologies are the knowledges applied to the management of nature, the wielding of science and politics as part of the process of mineral production. Extractive technologies frame our understanding of nature, accommodating it to sustain an extractive society. The decision-making process regarding the relationship with nature follows a logic that assumes the validity of certain narratives that govern nature, while these truths are also a reflection of values applied to the construction of knowledge. In the end, nature becomes the

result of forms of “power, technology, expertise and privilege” (Mitchell, 2002, p. 210), which together form a techno-scientific network governing nature’s archive.

According to Latour:

“[n]ature becomes knowable through the intermediary of the sciences; it has been formed through networks of instruments; it is defined through the interventions of professions, disciplines, and protocols; it is distributed via data bases; it is provided with arguments through the intermediary of learned societies” (Latour, 2004, p. 4).

Science plays an enormous role in the way we are taught about the natural world, which offers hierarchical order as a means to understand how the world is shaped (Latour, 1992). In this scenario, there are many questions we must ask. What technologies are applied to build nature’s archive? How do changes in technology and sciences affect the meaning of nature? How does nature express human values? And how is our relationship to nature being controlled or influenced by the interests of networks of knowledge creation?

When examining these questions, we need to acknowledge that the network of relations between science, knowledge, and politics constructs nature as an object of human knowledge, which is very necessary in the process of extraction. An object of human knowledge has no existence on its own, it exists only in its relationship to other objects, including the way it is characterized, classified, and the system of norms in which it is placed (Foucault, 1982, p. 45). Through the study of the technologies of extraction, this research will analyze the

ways in which the engineers and management of the mining company constructed the Andes as an object of extraction.

By looking at questions such as what are the technologies that the mining industry articulates to sustain the production process? And how do they produce new materialities in the social and natural realm? I also look to contribute to the advancement of the study of Science, Technology and Society (STS) and New Media Theory and in this process I will also discuss topics related to gender, journalism, and environmental studies.

Methodology

Through this multi-sited ethnography that looks at issues of space, discourse, materiality and media, I look to re-draw the boundaries of mining production in the Chilean Andes. I chose to use multi-sited ethnography because this methodology looks to make visible the relationship, translation and association among sites - through the study of parts of a system, we can see how these parts also belong to the process of globalization, allowing us to learn how capitalism crosses over geographical boundaries (Marcus, 1995). In this study we will appreciate how the nature of the mining industry is fluid, moving among sites, and how the production process of mining is enclosed in a major system that allows discourses and materiality to freely flow among sites. As an example, it is not a coincidence that in 2011, at the beginning of this research, I found that the discourse of “conflict,” used pervasively by the local communities of the Choapa Valley to address their relationship with the company Los Pelambres, was transformed into a discourse of “processes” (Palma-Millanao,

2014). When I started to follow “the conflict,” I had to readjust and follow “the process,” which illustrated that the stability and representation of the discourse varied over time (Fairclough, 2003, p. 124), while at the same time revealing the way in which the “process” inhabited sites that were supposed to be distant from the zone of extraction. As I followed the discourse of mining production, the materiality of the Andes also was transformed. Therefore, the materiality of the Andes had to become a central part of the discussion of the technologies of mining production. Through the years, I was able to not only experience the fluidity of the discourse in the different sites, but also to observe how even a rock can become fluid within this system when it interacts with different spaces and subjects, as we will learn in the following chapters.

As part of the methodology, special attention is paid to the mining concept that is usually equated to “extraction,” though I purposely use the term “production” to describe this mining process. This shift in the use of language is meant to help us move beyond the idea of a mechanical activity and to acknowledge the use of specific knowledges and skills to sustain mining. As we will explore through this research, mining is not just the act of extracting minerals out of the Andes; the mining industry has developed the necessary knowledge to sustain a production process that requires participation from different areas. The Los Pelambres company's interventions in the development of knowledge about the Andes create a materiality of the mountain that exceeds its discursive boundaries - a materiality that involves nature and the bodies of people who are produced in this space (Lefebvre, 1991). Therefore, to understand mining as a

production process rather than just an extractive action will allow us to understand the transformation of the territory as part of the instrumentalization of space for the facilitation of a mode of production. We cannot consider space as an empty abstraction in isolation (Lefebvre, 1991, pp. 11–12), we need to consider space in relation to a system.

Together with a multi-sited approach, this research blends critical ethnography, performance, and critical discourse analysis. These methodologies are relevant and necessary for this research, due especially to my positionality in the field: I began my work as a non-profit worker in the area, in charge of the development of communications strategies in a zone of conflict and violation of human rights, and then later volunteered in the community of Cuncumén to aid in the construction of a community radio while working for the non-profit organization Participa in a project funded by Oxfam-Chile. Additionally, the work of a critical ethnographer is to find data by denaturalizing processes that have been institutionalized as common practices (Madison, 2012, p. 5), while at the same time recognizing the power exercised at the moment of conceptualizing the “other” (Conquergood, 2002, 2012). This lesson, borrowed from performance studies, is crucial when performing interviews and analyzing the results, and I consider it to be a central goal of the future textual and extra-textual formats of this research. In the field, I have allowed myself to be “‘vulnerable’ to another at the risk of being ‘the register’ of someone else’s power” (Madison, 2012, p. 43). This means that I have accepted how the “Other” intervenes on many different levels of the analysis and course of events observed during the fieldwork, which

transforms the experience for the actors involved (Conquergood, 2002). For instance, during fieldwork in 2012, I was driving a truck from Cuncumén to Salamanca with two community leaders, who spent the 30-minute ride teaching me about the copper production process and the ways in which they get around Los Pelambres' attempts to conceal information by having informants inside the production site. In their own words, they said they wanted me to learn to appreciate the Andes as they did, and not only from the perspective of the company. To develop that sort of critical dialogue takes more than just observing what is happening in the sites; one must critically articulate one's presence and personal politics, and also accept the personal changes that develop throughout the process of conducting research. By doing this, new information becomes more relevant; the memories of trauma or the affect involved in the memories alter the relevance of the information compiled. Critical dialogues allow the interviewee and interviewer to collaborate, while at the same time exposing information that is usually left out of dominant history. In this way, the methodology allows for historical reconstructions based on a genealogical perspective, as I will demonstrate in the following chapters.

This research explores the effects of social practices that are part of social structures that articulate discourses involving other non-discursive social elements, such as the material world, actions, and interactions (Fairclough, 2003, p. 23). In this context, I consider media to be an active producer of "events" that are the result of specific social structures. I adopt Fairclough's understanding of the relationship between discourse and materiality, in which materiality is not

conditional upon the human knowledge of it. This is a version of critical realism “which claims that social relations and ‘objects’ [...] have a materiality which is not conditional upon the fact or the nature of human knowledge of them, but that they are nevertheless socially constructed, that social objects and social subjects are co-constructed, and that discourse contributes to their construction” (Fairclough, 2006, p. 12).

Multi-sited ethnography, critical ethnography, performance, and critical discourse analysis are complementary as methodologies and theories, in terms of their politics and their application in archival research and fieldwork. These methodologies acknowledge the need to develop a research approach that participates in social justice projects while contributing to the creation of emancipatory knowledge and social justice discourses (Madison, 2012, p. 6) and to pursue analysis that is committed to social transformation while addressing the role that language plays in this process (Fairclough, 2004).

To be able to articulate the different nuances of the technological process of mineral extraction, I will explore the technologies and the values that enforce mining production in three different sites. The first site is the Choapa Valley, where the Los Pelambres company started its operations in 1999. The second site is composed of two museums, which have been funded and/or operated by the company. One of the museums is at the bottom of the Choapa Valley in Los Vilos, and the second museum is at the Pontificia Universidad Católica, where it forms part of the engineering department. The third site is a media archive from El Mercurio and La Tercera newspapers, mostly collected from the National

Library in Santiago, Chile. The fieldwork was developed in the following periods: June and July of 2011, June and July of 2012, and June to August of 2014. I draw on archival and contemporary documents as well as observational research field notes and 29 ethnographic interviews of community members of the Choapa Valley, Los Pelambres' mine staff, and workers at the museums. I received approval of the University of Illinois Institutional Review Board to develop all of this work.

A Brief Historical background of the Choapa Valley and the mining company Los Pelambres

The mining company, Los Pelambres, began its operations in the Choapa Valley at the end of 1999. This valley forms part of the Choapa province, which is part of the Coquimbo Region in Chile. The Choapa province stretches more than 10,000 square kilometers, with a population of almost 78,000 people (Instituto Nacional de Estadísticas, 1992). The province is comprised of four municipalities: Illapel, Los Vilos, Canela and Salamanca.

Los Pelambres mining company is located at the top of the Choapa province and right above the community of Cuncumén, where the tail dam "Los Quillayes" is also located. The tail dam, which contains the fine-grained toxic residue of mineral processing, has operated longer than initially projected; schedule to cease operations in 2002, it continued until 2009. During these years, the presence of the mine has produced different types of social and environmental impacts. The operations of the mine also impact the nearby Pupío Valley, where the company built a second, bigger tail dam, "El Mauro." The

communities of this valley, located parallel to the Choapa Valley, have reacted by seeking a judicial solution, while in the Choapa Valley the communities are directly negotiating with the company.

Through the years, the local communities have faced difficulties in proving the impact of mining production in their territory and countering the narrative that condones the company's destructive actions, as will be discussed in the following chapter. As a result of their actions, community residents have developed endogenous knowledge that enables them to defend their interests in front of company and governmental authorities. They taught themselves about mining production, tailing dams closing processes, and legal regulations concerning their situation. These new skills, incorporated into the knowledge of the community, allowed them to overcome some of the personal limitations that had previously (and dynamically) reinforced the dramatic inequalities that exist between the parties.

Particularly striking has been the response of the communities to one of the most damaging impacts of the mine in the area—the contamination of the water source. Community residents have vigorously mobilized, organizing to demand the company's accountability. Several mining waste leaks had polluted the main river that sustains the Choapa Valley. Though the leaks were sanctioned by the justice system, some members of the community were not pleased with the level of the sanction.

Due to the danger that the tail dam poses for the health of the population and the agriculture in the zone (Cámara de Diputados, 2011), Cuncumén's

population and people from nearby communities have denounced the authorities and the company's management. For years, the response of the local authorities has simply been to ignore these developments. But in recent times, a new assessment of the community by the company led them to begin a study of the quality of the air in 2011.

But the response of local communities has not always been united, and in fact the social impact caused by the presence of Los Pelambres in Cuncumén has fractured the bonds between family members. This fracturing of the population has come from the opposition of different viewpoints about what the relationship should be between the community and the company. The different opinions regarding the future of Cuncumén are the product of major social segmentations, such as gender roles, land ownership, economic activity, and level of access to information, as we will see in the following historical reconstruction of the company's founding.

In this historical narrative, I intend to offer a general overview of the territory and the relationship between Los Pelambres and the local communities of the Choapa Valley, especially as characterized by the community of Cuncumén, which is closer to the zone of extraction and thus where the externalities of the process of copper production are more evident. I must also acknowledge that the history of the conflict as the production of materiality is not linear, though I will mostly present it in a linear fashion in this first attempt to explain the narrative of the conflict. I also acknowledge that cycles of silence

were added to the narrative (Trouillot, 1995); however, as the dissertation progresses, history will gain texture and complexity.

Memories of Cuncumén

Cuncumén is five hours by bus away from Santiago, the capital city of Chile. Only the executives of the "Los Pelambres" Mine take the even shorter trip by flight from Santiago. The mine owns an airport that facilitates this direct connection of the company's executives with the production zone. They don't go down the hills where the community lives; rather, they take their direct flights to Santiago each time. The relationship between community members and the owners of the mine is non-existent, as a community member describes when asked if Jean Paul Luksic has ever visited the area:

"If he ever came, he was hiding, because here in the community he's never showed up. I would like to see him face to face to tell him a number of things, if he takes it in the right or wrong way, ok, but I would like to tell him these things. I know that maybe he will not even take them in consideration, maybe, but that's how things are."

(Interview, Cuncumén, 2011).

People in their 80s and 90s hold memories of the land when it belonged to the state and the Choapa Valley was administered by the "*Haciendas*" system. The "*Hacienda*" had a manager who was in charge of the productivity of the land. Some elders were born in Cuncumén with the assistance of midwives, while others were brought to Cuncumén with their parents who were looking for jobs and housing for their families. They came to be called "*inquilinos*" (workers of the

land) and "*administrativos*" (people in charge of administrative issues). The treatment received by the "*inquilinos*" was severe; they had to work extensive hours, even at night, all week long.

Some community members recall the experience as follows:

"We were slaves of the hacienda."

(Interview, community member and former *inquilino*, Cuncumén, 2011)

"They made them work a lot without much pay. They were even punished, it's not only that they didn't get much pay, but if they stopped working, like in the times of the Egyptians, if a worker got tired, the taskmaster would give them lashes [...] that was before the people of Cuncumén became owners of the land."

(Interview, son of a former *inquilino*, Cuncumén, 2012)

The "*inquilinos*" received a monthly wage from the manager. This was called a "*galleta*" (a type of bread). They were also provided with a meal every day before they went to work. The kids of these workers received education until they were old enough to work the land with their parents. The situation changed when the peasants' unions started to ask for a redistribution of the land. In 1962, President Jorge Alessandri ordered an agrarian reform, which redistributed the land ownership. At that point, the "*Corporación por la Reforma Agraria*" ("*Corporation for the Agrarian Reform*") was the institution in charge of making this progressive transformation (Biblioteca Nacional de Chile, 2014). The Choapa Valley was the first place where this reform was enforced in the country. At this

time, in the early 1960s, people from abroad came to the area looking for minerals in the mountains that had finally begun to be given to the community.

After several reforms in the landscape ownership, under the subsequent governments of Eduardo Frei Montalva and Salvador Allende, half of the community owned a piece of land while the other half remained without property. This was a critical point in which the community was divided between those who were called "*los con tierra*" ("*those with land*"), and "*los sin tierra*" ("*those without land*").

"The boss came and told me, 'the piece of land will contain about 7 to 50 hectares,' so I told him, 'do you mean that 50% [of the people] won't own land?' 'That's it,' he said. I told him, 'I don't agree with the distribution,' I told him, 'we are 120 people [families] and the 120 people have a right to access land' [...] I feel sorry for the people that didn't receive any land, because we are all Chileans and in this world, here, there are people who don't have anywhere to go, they don't own land".

(Interview, Cuncumén, 2011)

In 1979, some time after the Agrarian Reform, many of those who were owners of the land were forced to sell it to Anaconda Chile. At that time, the country was commanded by the Pinochet regime, and the company and local authorities used this military state of exception to take the land from its owners (Corporación Participa & Oxfam-Chile, 2009). Under the precarity of human rights' enforcement during the dictatorship, people were frightened, and the

police took an active part in the community meetings when the selling of the Andes was discussed. People recalled this event as follows:

“At that time, I think they bought it [the land] for next to nothing. What happened is that the people who sold that land, the majority of them didn’t have the means to make the land productive because you need to use oxen, also you had to pay some fees, you had to pay taxes, you had to pay for access to water, so then people may have thought that ‘I’ll sell it and will receive the money,’ since at that time no one has a million pesos, they thought that it was a lot of money. But in the end, I thought at that time that it wasn’t much money and that the mine bought it too cheap. Anaconda bought the whole mountain over here.”

(Interview, Cuncumén, 2011)

“So I asked him, ‘how are we going to sell the mountain?’ Yes, he answered, you have to sell the mountain. He told me that everyone agreed on this decision; there was an engineer who was the only one who didn’t agree with this [...] I told them I didn’t agree with the selling of the mountain because they would take our rights away. Then the major Roberto Rondanelli stepped up and told me, ‘and who’s going to take the mountain from you?’ Using those words and shit... I told him, ‘but if we sell this we end up without rights,’ and then the police were all standing in the door [...] and they looked at us, they looked at me, and then I wasn’t able to say anymore.”

(Interview, Cuncumén, 2011)

“There was a general meeting, here at the *“hacienda”* there was a place where meetings were held. The land shouldn’t have been sold, all of the mountain... because there are thousands of hectares of mountain, not hundreds, there are thousands of thousands, the mountain is big and [the issue] is that they don’t have water and they can’t water the mountain. But they sold it, it was sold under threats, that’s what I hear because in that time the militaries ruled, then the major that was there in Salamanca also took it against us, and we had to sell the land”

(Interview, Cuncumén, 2011)

At that time, the major of Salamanca, the closest city to Cuncumén, took part in the meetings. He tried to convince people that they had to sell the Andes to the company because it would bring progress to the zone. Mr. Rondanelli, representing the company, promised that they would improve the quality of life in the valley by building a school, a university, and a hospital. These arguments were not enough to convince people, so the police showed up to the meetings with rifles and guns to "persuade" the people to sell their lands. In the end, the pressure and the political situation of the country at the time facilitated the development of this project. The company paid eighteen million Chilean pesos (around US \$35,000 today) for more than 224,000 acres of land. This money was divided among those who owned the land that was taken by the company.

Another version of the settlement of the company in the Andes begins in 1910, when William Braden, a US geologist, explored the zone. Later, in 1955, the mining companies Protectora and Los Pelambres claimed the area. After

that, in 1964, the United Nations did a surface examination, followed by a further exploration by the Chilean Institute of Geological Investigation, which was financed by CORFO (Chilean Economic Development Agency). In 1969 the United Nations started a partnership with ENAMI (Chilean National Mining Corporation). Their exploration work was finished in 1971, and in 1978 there was an international licitation for bids. In this manner Anaconda purchased the mine in 1979. Anaconda Chile SA was a subsidiary of Atlantic Richfield, a US oil company. In 1986 Anaconda Chile was bought by the Luksic group for US \$6 million (O'leary, 1994).

According to a community member, the connection between Anaconda and the Luksic family began before this transaction. He remembers:

“Yes, at that time [the mine] was bought by Anaconda of the United States and then it [was transferred] to Anaconda Chile, which is the company that started to ship all the minerals from here to Illapel to grind it, or I don't know where [...] it was always the same owners, because the one who discovered the mine and started to work it was the father of the Luksic family, Don Andróniko, he started it.”

(Interview, Cuncumén, 2011)

The mother of Andróniko Luksic - founder of the family business - was the daughter of an Anaconda Mining Co executive. Andrónico Luksic, pioneer in the mining industry, is described as a *"pirquinero"* (an artisan miner) in the national media, just like many people who still extract minerals from the mountains with their hands. But this description conveniently omits much of his history, such as

his business relations with the stock market in London, from which his holding received a loan in 1888 to develop its business (El Mercurio, 2005).

There is a significant difference in the timeframe described by different archives. The historical archive of the community members starts in the 1960s, when the community of Cuncumén had the chance to meet face to face with the people who were doing mineral explorations in the Andes, while a second archive starts fifty years earlier, in 1910, when the US geologist explored the mountains looking for minerals.

In both narratives, different actors appear. Highly important is the way in which the community recognizes the forces of the dictatorship as a relevant factor that forced them to sell their lands, when Chile was in a state of shock (Klein, 2008). In the second narrative, organizations such as the United Nations and the London Stock Market appear, serving as part of the mechanisms that led to the conquest of the Andes for the settlement of the mining industry.

As part of the emergence of the demand for mineral resources, interest in the Andes turned Chile into an “emergent geography” (Ong, 2006) where the sovereignty of the territory was adjusted to facilitate the display of global capital. The minerals in its mountains placed Cuncumén on the global map, and its citizens stopped being regulated exclusively by the nation state. Cuncumén and the Choapa Valley became part of the chain that sustains Global Cities throughout the world (Sassen, 1991).

Gunder Frank (2007) describes how Chile has been a metropolis-satellite structure since the era when Spanish conquerors landed in the territory. He says:

"...in the course of world and Chilean history during the epochs of colonialism, free trade, imperialism, and the present, Chile has become increasingly marked by the economic, social, and political structure of satellite underdevelopment. This development of underdevelopment continues today, both in Chile's still increasing satellization by the world metropolis and through the ever more acute polarization of Chile's domestic economy." (2007:79)

The new vision of the company

Since 1999, Los Pelambres has developed itself in a very efficient way. It is currently ranked as one of the ten largest mines in the world. The company has been recognized for its technological innovations; for example, in 2010 they received the Technology Innovation Award from Microsoft and an award for the Best Sustainability Report. The company has also adopted a "new vision" for doing business. This was officially launched in the 2011 Sustainability Report, in which the general manager of the company at the time, Ignacio Cruz, declared:

"2010 was a year for deeper reflection about the new focus of Los Pelambres, which is expressed in the new vision and business strategy. Now, the focus is on understanding that the future possibilities of the company's growth are connected to the capacity for generating value for the interest groups of the company - that we are part of a wider system, and our success also depends on the success of the communities with which we are related." (Minera Los Pelambres, 2011, p. 14)

In the report, Cruz also mentions that 2010 was a year of learning for the company due to the death of two workers and continuing problems in the relationship with the communities. Curiously, what is “innovative” about the new business model is that the company recognizes how the communities are also part of its interest groups. He says that these communities now expect more from the mining industry and the company. Therefore, to assure the sustainability of its business, the company must take care of issues that ten years ago seemed to be irrelevant for the actors. The company describes a model of added economic value, in which the value of the company is generated and shared with its interest groups.

The "Valle Alto" intervention

In 2007, community members of the “*Valle Alto*” (“*High Valley*”) presented in court an action for protection of its constitutional rights. In this action, community members denounced twelve events that were the result of the company's operations. The first event occurred in August 1999 and the last one in November 2007.

The most visually evident polluting event in the history of the conflict was the leak of polluted water that affected the Cuncumén river during August 3rd and 4th, 2007. For 20 hours, Los Pelambres leaked more than 1,320,000 gallons of contaminated residues into the water. Aggravating the situation was the fact that Los Pelambres avoided telling the authorities about the leak, which helped the company to cover up the effects of the disaster. The contamination was not properly measured, and the community that uses the water from the Cuncumén

River continued using the water without knowing that it was highly contaminated. Only weeks later, on October 26th, another Los Pelambres leak polluted the water of the Cuncumén River for 40 minutes (Fernández & Sánchez, 2007).

The organization of the community to confront the damages that Los Pelambres produced did not begin immediately after the company began its operations in 1999; it took a couple of years for people to begin mobilizing. In the beginning the effects on the environment were not as high as in more recent years, "maybe because the company was smaller," says a community member. In 2001 it was configured a "*mesa de trabajo*", which was functions as a committee that started working toward the solution of the problems that were affecting the community. As a community member recalls:

"Los Pelambres was polluting the water with toxic waste and fecal coliforms, and polluting the air with toxic gas and dust."

(Interview, Cuncumén, 2011)

2002 was the original deadline for the operation of the tail dam "*Los Quillayes*" to cease, but the authorities authorized the extension of the tail dam's operations to prolong the production of the mine. There was no environmental impact study; still, the authorities approved a declaration that allowed the company to continue with its project. The community tried to talk with the authorities to explain the effects of the mine in their lives and the environment, but it didn't work.

Meeting with President Michelle Bachelet

In July 2007, before the dramatic leak of the tail dam, one of the leaders of the community met with the then-former president of Chile, Michelle Bachelet². A friend of Bachelet who was a family friend of one of the local leaders was able to schedule an appointment with her. This contact person between the president and the community attended the meeting with the local leader. For 45 minutes the president was informed about what was happening in Cuncumén and the effects that were caused by the mine. Bachelet told the leader:

"[L]ook, today the norm that we have is what we have. The only way (to ease the problem) is if the community organizes itself. I believe that your mission is to organize the community to raise a proposal to present to the company. You should talk with the company."

(Interview, Cuncumén, 2011).

In less than a month, on August 3rd, the huge leak from the tail dam happened. Twenty days later, the community of Cuncumén took control of the road that leads to the mine. In this moment the four communities of the Valle Alto started to organize themselves. The company would later call the communities of Cuncumén, Tranquilla, Batuco, and Chillepín that compose the Valle Alto "*las cuatro princesas*" ("*the four princesses*"), because nobody could touch them. After this incident, the same leader that met with Bachelet had the chance to meet with Adriana Muñoz, a representative in the congress. This leader recalled:

"[T]his was a difficult situation, but [Muñoz] was willing to try to invite the Minister of Environment to the zone."

² Michele Bachelet assumed a second presidential period from 2014 until 2018.

(Interview, Cuncumén, 2011)

Finally, the Minister came to see what was happening in Cuncumén. Adriana Muñoz was told that to facilitate the discussion with the company, the community needed the “*Intendente*” (a sort of governor) - Felipe del Río at the time - to engage all the governmental organizations under his authority to promote a “*mesa de trabajo*” (“*committee*”), and that Los Pelambres manager in charge of the business between the company and the communities would have to be removed from his position. According to the local leader, Adriana Muñoz spoke with Jean Paul Luksic, the president of the board, and as a consequence of this conversation a new manager took the position.

The new business strategy

In 2006, the dust in the air became a visible problem; the community thinks that the dust is affecting their plantations and also their health. Still, they cannot prove this correlation, and that's why a study financed by Los Pelambres is under development today. But how did the company come to finance this kind of study that could affect its image? This new business strategy responds to the crisis that in 2007 created the major leak in the Cuncumén River. The community's actions of resistance reached the national media, and Los Pelambres was in the hot spot. Also, the community created OCAS - the “*Organización Ciudadana Ambiental de Salamanca*” (“*Environmental Citizen Organization of Salamanca*”) - which to this day is the organization that articulates the environmental movement in the Choapa Valley. The company

publicly responded to these developments in its sustainability report of 2007, stating:

“Los Pelambres mine has incorporated the issues of sustainability into its management as a way to align the company in that direction. For this purpose, in 2007 [the company] introduces these topics in the mission, vision, strategic objectives and the Balanced Scorecard”

(Minera Los Pelambres, 2008, p. 16)

In October of 2008, after the arrival of the new manager in charge of the business between the company and the communities, both parties signed a framework agreement to monitor the closing process of the tail dam Los Quillayes, which was no longer necessary for mining production after the opening of the mega tail dam El Mauro in the Pupío Valley. Still, the company has insisted on keeping it operative in case an unexpected event occurs in the second tail dam.

In 2008 the *"mesa de cierre"* was created, which is a committee in charge of monitoring the closing process of the tail. This *"mesa de cierre"* consists of four representatives of the community and four representatives of the company. To reach an agreement, all members have to agree with the decision. This committee is responsible for the development of a comprehensive plan - the *"plan integral"* - that is divided into four areas of work: air quality, water quality, the community's productivity, and social issues. The organized community has promoted all these agreements and instances of cooperative work. A long and

hard course of action has, step by step, allowed the community to work their way into the decision making process of the mining company.

The ongoing process for closing the tail dam produces a source of labor for the area. This was an opportunity that the community saw to create labor for themselves. As a social organization, they were visualizing what has to be done in order to close the tail dam. Before this happened, external companies were offering their services. This is how the same community originated a cooperative called “*Cooperativa de Desarrollo Sustentable*” (“*Sustainable Development Cooperative*”). The cooperative is in charge of developing the different actions needed for the closing process. Because the community does not have their own expertise in these issues, they have contacted international consultants to help them drive this process. The community that takes part in the cooperative is in a process of learning how to close a tail dam using phytostabilization, which is a process projected to last for at least the next 15 years. Today, there is an ongoing discussion among community members about the scope of the cooperative. Is this a business or a tool to control the process of the closing of the tail dam? Does the cooperative have the capacity to represent the whole community? These are questions that are part of the ongoing discussion among community members, while the company keeps producing copper and molybdenum and increasing its presence in the country. In the next chapter, I follow up the examination of the new business strategy of Los Pelambres, as part of the political and extractive technologies of production that has marked a shift in the history of the conflict. Also, I will explore how the discourse of sustainable

development promotes the emergence of new knowledge, archives, and resistances in the local territory, which shift in the positionality of the local communities in the conflict.

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CHAPTER 2

SUSTAINABILITY AND RESISTANCE

Me: Is Los Pelambres more responsible now?

Ernesto: Yes, they have done some things.

Me: How are things different?

Ernesto: Now they say that they are not willing to contaminate because people are going to bother them.

Me: Who would bother them?

Ernesto: Everyone here, so they don't pollute the water, because if they pollute this river and then this water comes together with [the river] in that side, they contaminate the whole valley.

(Interview, Cuncumén, 2011)

Los Pelambres' Community Relations Manager: I would say first that I understood that we had to listen what was suggested by the community, and I would say in the company there was a process that was widely supported internally... and we were in this process when we met [community leaders] and we said ... well, if [the community] is willing to listen, is willing to propose very concrete actions regarding the water, dust, the closing of Quillayes, why not to sit and talk about issues that we defined as priorities [...] and I would say that there was the willingness to look for a joint solution."

(Radio show "Mirando a la Comunidad", 2011.)

Cristian: The concept of sustainable development that they use favors their operations, their discourse - some actions have to be done to make it happen, but those are not the majority... and it becomes a discourse. They are always worried about how to produce more at a lower cost. Therefore, changes haven't actually happened inside the company.

(Interview, Cuncumén, 2012)

Los Pelambres: More than 10,000 companies around the world are part of the Global Compact Network, an entity under the United Nations Organization, which aims to aid organizations that operate in Chile to integrate its strategic guidelines for the generation of value through a genuine commitment to sustainability.

(Los Pelambre's website, 2012)

In 2011, the first paper I wrote after my first fieldwork visit to the Choapa Valley was an attempt to reconstruct the history of the conflict, titled "*The Storytelling of Two Different Worlds: the subalterns and the global hegemony. A*

case study of the community of Cuncumén and Los Pelambres Mine in Chile." At that time, my initial explorations in this territory indicated that I had to start my research by reconstructing the history of Cuncumén and its relationship with the copper mine, since this town was the closest to the mine and therefore experienced the first impacts of the mining production. As part of that work, I also aimed to learn about the community's perception of the company and the public discourse of Los Pelambres regarding the ongoing conflict. In doing so I encountered some of my first fieldwork dilemmas, when the memories of the elders regarding the settlement of the company or some of the toxic spills in the main water source didn't match exactly with each other. Some memories were blurry; some memories were not "exact." Meanwhile, the memories of Los Pelambres seemed to be precise, led by a single, grand, historical and scientific fact-based narrative that directed the past, present, and future.

How do people experience history? How do some events gain significance over others? These questions have become central to my research since those initial encounters in the field, as I have sought to re-visualize the mining system in action (Trouillot, 1995). Shaped by this experience, this chapter explores the installation and development of the discourse of sustainable development as part of a set of political and extractive technologies of production, the emergence of which have marked a crucial shift in the history of the conflict. The introduction of a sustainable development discourse in the negotiations between community and mine brought tension; but at the same time, it brought release via conversations, dissipated pressure while promoting new resistances and knowledge, and

connected the local territory with a global discourse and system of production.

Sustainable Development

The national Minister of the Environment, inaugurated in 2010, has a vision of reaching sustainable development to better the quality of life of the people living in the country, by generating public policies and efficient regulations among other actions (Ministerio del Medio Ambiente, 2010). This focus on sustainable development has attracted attention from private corporations and the government, in part because it is now so politically risky to oppose sustainable development, while "[e]mbracing it is now a tacit or explicit norm for governments and several sectors of the economy, including mining" (Fonseca, 2010, p. 356). In this global scenario, Los Pelambres has made use of the sustainable development discourse as a new means to address the local communities of the valley while reframing its production system, allowing the mine to subsist and increase its operations.

Sustainable development is commonly described as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (The United Nations, 1987). According to the United Nations report "Our Common Future," sustainable development is not a state of things - it is a change-oriented process focused on the exploitation of resources, management of investments and technological development, and institutional change. All of these components have to be consistent with the needs of the present and the future, whose driven force is political will. In 1992, during the Río Earth Summit, the concept of sustainable development evolved

from a theoretical framework to a more practical implementation of sustainability. The summit members urged the United Nations' associated countries to implement sustainability processes in the developing world as a means to achieve economic and social change, placing sustainable development in the intersection of environmental policies and developmental strategies (Quiroga, 2001). Today, there is an ongoing discussion about the true viability of sustainable mining companies. Though this discussion has taken some time to reach the public arena, local communities have for some time noted that the process of extraction is finite, thus prolonging the sustainability of a mining company only until extraction becomes unfeasible (Fonseca, 2010). In the words of the United Nations, sustainable development is a process that aims for change, which is exactly the language that has taken over the Choapa Valley.

I have been visiting the Choapa Valley since 2008, and for years the people of the community described their relationship with the mine as a “conflict.” But when I visited the territory in 2011 to begin the historical reconstruction of the conflict, I realized that people had started to describe their relationship with the company as a “process.” When I asked around about this variation in language use, I received some of the following answers:

“I think the conflict exists and the process is to be built. Thus the process is built daily, and there is where we need to advocate, to be doing things, so each neighbor participates in this process, because one way or another there is a path that will allow us to reach the goals that we have worked toward in these three years, so this takes time. We also can't expect this to

become real from one year to the next [...] therefore, while the conflict exists, the 'process of relationship' needs to be constructed."

(Interview, Cuncumén, 2011)

"[L]ook, I don't know if this is a process, because for this to be a process it would have to be very clear. I believe this is a conflict. Even though its intensity has slowed down, the conflict continues, and we need to be there to speak up and to defend [ourselves]. For this to be a process, it would have to be done, but it's not done, because they continue on and on. Today [there is] the same disgusting pollution, today I stepped out of my house and I started to sneeze, and here [in Cuncumén] it is the worst."

(Interview, Cuncumén, 2012)

"[A]mong the whole situation this thing emerges... there is a conflict, and then emerges the possibility to understand each other within this conflict. But this is a phenomenon that was going to happen, regardless of anything. Sooner or later this had to happen in the valley."

(Interview, Cuncumén, 2012)

There are different opinions regarding the existence of a process; if the locals refer to the relationship between their communities and Los Pelambres in this way, it is sometimes more of a bet than a reality. Calling this a process instead of a conflict incorporates a new temporal dimension that provides some relief. While the conflict happens in the present, the process aims for the future. Therefore, working on a process will eventually bring revenue, but not necessarily today while divergences persist. The cultivation of hope in the process is crucial for the

establishment of sustainability. In this way, despite the possible negative consequences that mining can cause in daily life, the idea of a process serves to control the risk of social explosions, containing them with the promise of the future success of ongoing changes implemented in the Choapa Valley through the “Mesa de Cierre” that was created after the mobilization of the people in response to the massive leak of contaminated water in 2007. As described in the interviews, the process involves different actors and the active willingness of the community to “speak up,” “to understand each other,” and “to advocate.”

By participating in this process, the community members encountered unexpected consequences; it was now assumed that they implicitly shared responsibility for the implementation of the “Mesa de Cierre.” So when something goes wrong in Les Pelambres' operations, those who are willing to participate in the process are called out for their culpability. Some of those who participated in the process of closing the tail dam described the situation as follows:

“The discourse of the company is that we have a “mesa de trabajo,” that we must respect the “mesa de trabajo” and that this is the place for discussion. But in a certain way, the company is handing the responsibility to the leaders for failing to meet deadlines, for dust that is still coming [into the air] ... [the company] does not say it directly, but when you listen to the mine’s executives, they make it clear that we have to work together and therefore [we] must protect [the “mesa de trabajo”], and this is the reason that they cannot fix the water issue, for example.”

(Interview, Cuncumén, 2011)

"I think that what the mine will try to do is to interlace their opinions with the [opinions] of the community. In this sense, the communications committee³ will have to separate the discourses of the actions related to the closing of the dam from [the discourse] of the mine that would be a success. But if [the company] interlaces [the discourses], which is what they look for, they [the communities] are going to be lost."

(Interview, Salamanca, 2011)

"We end up being responsible, and that's a reiterative issue, and I think we need to look for a solution to this. Because in the end there is a depletion of the leaders, a disqualification of the process, and in one way or another we start to give space to the mine - and that's why they manage the issue as they please."

(Interview, Cuncumén, 2011)

During my visit in 2012, there was a certain tension between some leaders who participated in the "Mesa de Cierre" and members of the "Organización Ciudadana Ambiental de Salamanca-OCAS" ("Environmental Citizens' Organization of Salamanca"), which is the main citizens' organization that unifies claims against pollution in the valley. One member of the organization explained

³ The communications committee was created (as part of the "Mesa de Cierre") to facilitate access to information about the tail dam closing process for Choapa Valley community members. This committee is comprised of professional staff in charge of the communications of Los Pelambres and professionals hired by the Cooperativa de Desarrollo Sustentable, who are mostly young professionals from the Choapa Valley. Some of those who have worked in the communications committee include an environmental engineer, a social worker, a sociologist, an anthropologist, and a journalist.

to me in 2011 that during a previous town hall meeting, a community member berated the company's representatives for a recent oil spill in the zone of operations. After this community member explained the situation to the rest of the attendants, another community member, who is part of the "Mesa de Cierre," started to speak on behalf of the company about the measures that were implemented to avoid the leaking of the oil into the river. Moments like this led to changing perceptions about the "Mesa de Cierre's" scope of responsibilities. The community member who recounted this encounter mentioned that it became clear for the rest of the community that the "Mesa de Cierre" was an artifact of the company, and not an opportunity for dialogue about the concerns of the people.

Another crucial change in how the company addresses the population has come from the decision to consider the local community members as stakeholders of the company. By analyzing the sustainability reports⁴ published by the company from 2006 to 2010, I discovered a clear differentiation in the ways people are conceptualized by Los Pelambres. In the first report the company addresses the Choapa Valley communities as "persons" and "individuals" (2006), then as "communities" (2007), followed by "social capital"

⁴ The Sustainability Report of the Los Pelambres mine is the principal accountability tool the company uses to make their operations transparent. Both the first issue and subsequent issues have repeatedly offered reports that have consistently incorporated the framework found in the Global Reporting Initiative (GRI), a network-based organization that provides guidelines for entities that voluntarily adhere to the GRI framework in disclosing their performance with respect to social, governance and environmental issues. This entity has a global strategic partnership with the Organization for Economic Cooperation and Development, The United Nations Environment Programme, and The United Nations Global Compact.

(2008), and finally “stakeholders” (2009) (Palma-Millanao, 2014). To be stakeholders means that the communities are now considered part of the assets of the production process⁵. The change in the language coincides with the different stages of organization and resistance of the local population and the new business practices implemented by the company through a sustainable development lens.

In 2009's sustainability report, director of the board Jean Paul Luksic describes for the first time the company's emphasis on becoming the leading mining company in the world in terms of sustainability by 2020. In the report he also mentions the aggregation of value for their interest groups. He states:

"I am pleased to present the fourth Sustainability Report of 'Los Pelambres' mine. This gives an account of our performance in the aggregation of economic, social and environmental value for our interest groups."

(Minera Los Pelambres, 2009, p. 9)

Community members, who were once mostly farmers, are identified as new subjects who are part and product of the mining process, like the associated companies and international capitals that form Los Pelambres.

In 2012, while interviewing a community leader in Cuncumén, I noticed that the notebook he was using to take notes included information about the sustainable development process that the company was implementing; he mentioned that this agenda was given to him by a company staff member. In the

⁵ These terms were used by the president of the board Jean Paul Luksic, who since the 2011 sustainability report has not contributed any more editorial pieces to the reports.

agenda there were a series of illustrations that aimed to explain what sustainability is, from the point of view of the company. Stand-outs among those illustrations included the declaration of the “New mission and vision” and the “Relationship model,” which highlighted that to “maximize sustainable value, the relations [between company and community] had to be based on trust and mutual benefit.” (See figure 1)

In this scenario, independent entities that address concerns regarding the impact of the mine, such as the “Organización Ciudadana Ambiental de Salamanca, OCAS,” represent a different type of subject that critically articulates its positionality and role in the mining process and confronts the mine using new skills and knowledge that allow them to advocate for the conditions in the valley. By being active in the defense of the valley, a few community members, especially men, have taught themselves about mining production, tail dams, and the law. OCAS does not depend on the company's participation to proceed with their actions, which has occasionally produced tension with community members who see in this organization a possible threat to the solutions that the company and the “*mesas de trabajo*” have managed to agree upon. At the same time, some OCAS’ members are also part of the “*mesas de trabajo*,” which sometimes complicates their independence from the mine’s interests, but as I was told, they prefer to participate in the “*mesas de trabajo*” to watchdog the process. By framing their actions upon the exercise of their rights, rather than the interest of a global market, OCAS’ members do not comply with the type of

functional subjects that the company's sustainable development discourse is trying to shape in the valley.

The knowledge developed by the community members (especially those involved in the environmental resistances) makes a difference when the negotiation process starts. The following excerpts of interviews performed with OCAS' members reflect the different areas of knowledge that they have developed in the last couple of years:

Measures to push for dialogue with the company:

Me: "What do you think has been most effective in the conversations with the mine?"

Ramiro: "I think the threat of strikes - I think they have ceded because of this, the last strike was radical!"

(Interview, Cuncumén, 2011)

Me: "What do you think made the mine relate with you in a different way?"

Luis: "The strong pressure, the strong community pressure. When they saw that the community was uniting, that the '*regantes*'⁶ of the community were also starting to participate, we exercised pressure and the authorities came and they couldn't act like ostriches anymore, they had to show their faces."

(Interview, Cuncumén, 2011)

Health issues:

Me: "How did you learn so much about health issues?"

⁶ "*Regantes*" are the farmers who organize according to their needs to administer the use of water from the Choapa river.

Marcelo: "I think that it comes from all the conversations that we have had, from those who have access to internet, too, the conversations with other people, professionals from other areas, this has helped a lot and if you are interested in one topic you look for more information, so then you don't commit a mistake, so then they [Los Pelambres] don't come like Angelini⁷ to say that we are all ignorant, brute, ignorant people who didn't understand a thing. If that were the case, then [Angelini] still would be ruling [the territory]. He had to leave, we kicked him out, and we declared him a persona non grata in Cuncumén. He had to disappear from here."

(Interview, Cuncumén, 2012)

Water management:

Luis: "The land where the mine is located is highly absorbent, water filtrates the soil. When the mine presented their impact study to expand their operations, people who work inside the mine gave me exact data about the locations where the filtrations from the dam were occurring, contaminated water, water that came from the [mining] process. This water was water that people still were using to irrigate their farms [...] As a matter of fact, when I denounced this situation, I did it in the middle of a town hall I was invited to by the Los Pelambres mine, because I participated in the revision of the environmental impact report. From that process we gained lots of information about the authorizations the mine was asking for [to extend the

⁷ "Angelini" is a former Los Pelambres' community relationship manager

mining operations] [...] I mentioned in the meeting that Los Pelambres was polluting, they were saying they were not polluting, but I told the mine that they were heavily polluting with their contaminated waters. The people who had invited me to this meeting were asking themselves, why did we invite this guy? In the meeting there were people from the CONAMA (Environmental National Commission), there were authorities and they told me, 'the accusation you are making against the mine is very serious!'"

Me: "Who told you that?"

Luis: "The assistant director of the mine at that time. He said that this is very serious, and if this is a lie you are going to be in very big trouble. I told him, 'Sir, if I wasn't sure of what I'm saying, I wouldn't say it, but as I'm sure of this, I take responsibility for what I'm saying' [...] Fifteen days later, they asked me to come to their office of public issues [...] to inform me that my complaint was well received, they evaluated it, they did field visits, and [they realized] that everything I had told them was well grounded in facts [...]"

So they congratulated me and told me that whenever I had this sort of information, I had opened doors to raise my complaints so they could fix the situation [...] After this episode came the '*entubamiento*',⁸ when all the 'acid waters' were routed through a pipe to a place where they treated these

⁸ The "*entubamiento*" was the technique used by Los Pelambres to take care of water quality after all the cross contamination episodes, hidden from the public eye, became public. Los Pelambres built a pipe that crossed under the dam where the waters of the river of the same name as the mine were led. In 2008, there was a community-led inspection that showed that contaminated water from the dam was still leaking into the pipe that transported the clean water.

waters.”

(Interview, Cuncumén, 2012)

Closing of the tail dam Los Quillayes:

Cecilia: "These things are experimental. In Chile there is no prior experience on fitoestabilization⁹ of this kind of extension, and in other countries there is no experience with the rare conditions that we face here in these 40 hectares."

Me: "Here you had to experiment with native plants..."

Cecilia: "That's the first thing, it is the basic thing to do in any fitoestabilization, the first thing is to test the native plants that are going to bear the weather and the environment, and then to test how the plants' growth in the dam has to do with their preparation, with the substrates."

Me: "Do the plants need to get used to the same heavy metals that are present in the dam?"

Cecilia: "No, the dam is going to be covered with a layer of vegetation, on top of that we are going to plant, and they are going to start to grow and the roots will grow and when they reach the dam we will feed them with a lot of vitamins, lots of things, so the plant can eat the dam, then it can take minerals from the same dam and so it learns to capture the heavy metals

⁹ Phytostabilization: the use of plants to remove inorganic pollutants (like metals) or organics pollutants (like oils and dioxins). The pollutants are absorbed by the roots of the plants, where they are accumulated in innocuous ways, avoiding toxic effects for other living creatures and avoiding the pollution of subterranean waters (Mesa de Cierre Tranque Los Quillayes, 2012).

and not let them free. This is pure experimentation."

(Interview, Cuncumén, 2011)

Arturo: "Well, I work here in the multiplication of native species, which are going to be used later in the phytostabilization of the tail dam owned by the mine. Among the species that we have here, we have about fourteen species from the first season 2010-2011, and this 2012-2013 season we should have twenty-two more species of native plants only. Among the native plants we have *romero*, which is not a tree but a bush that grows nearly two meters high; then we have the *algarrobo*, which is a tree that grows up to fifteen meters high; the *espino*, which is a plant that's not as tall but which is as big as a tree; we also have the *quillay*, the *litren*, the *tralhuen*, *huingan*, and the *pimiento*, which we have introduced even though it is known that it is not a native plant."

Me: "Why do you need to use only native plants?"

Arturo: "Because we are experimenting with these plants; these are plants that are known to adapt to this area and they are the plants that will adapt to the tail dam [...] There are about five controlled experiments that are being developed around the tail dam. There is a species that has been treated with a fungus that should be the one that would make a difference, which is going to catch the heavy metals and fix them, therefore the plant won't be a toxic plant."

(Interview, Cuncumén, 2012)

Gendering the gaze of sustainability

In the 1990s, Women's international organizations were able to participate in and influence UN conference agendas, such as the Earth Summit in Río 1992 and other events where the issues of human rights, the environment, and population were central to the discussion (Jaquette and Staudt, 2006). However, the momentum of the incorporation of a gendered perspective into international policies has decreased, and a sense of homogeneity, used to conceptualize communities, now reigns in international policy building. In practice, this means that gendered aspects of inequality are not substantially considered as a means to reconceive the way we think of development. In this sense, "there is widespread agreement that the market alone does not serve women well, but few have addressed the issue of how to strengthen states to regulate markets" (Jaquette & Summerfield, 2006, p. 3).

In the case of the mining industry and sustainable development, the situation is not more optimistic. The International Council on Mining and Metals (ICMM), the world mining conglomerate to which Los Pelambres belongs, has published a Community Development Toolkit for mining companies to use in their outreach. Though this publication could possibly be considered a big step toward the advancement of sustainability, it does not address the relationship between mining and gender from a development perspective. This fact tells us that there is a homogeneous view of the territories, its populations, and the kind of impact that the mining industry has on people's lives. There is a view that maintains that what is good for some (in this case, for men) will be good for everyone, which is a gender-blind approach (Lahiri-Dutt, 2011).

The case of the mining industry does not represent a lone example. Elson (2009) notes that the World Bank does not pay special attention to women's issues, even though the institution finances development projects worldwide. As a clear example of this, Elson mentions that there are no specific incentives from the World Bank to its local partners to include gender-related activities or to impose sanctions for not doing so. Issues of gender are not promoted, and their inclusion in local projects financed by the World Bank depends upon the interests and abilities of the local partners (Elson, 2009).

In the Choapa Valley, the presence of women in the public space is highly constrained. The main leaders of the community are all men, who represent local institutions or act as historical leaders. However, mostly in their private space, women do share their critiques, desires, and opinions regarding the fate of the valley, the political articulation of the conflict, and their perceptions about their role in this space. Their experiences give access to different interpretations of the presence of the mine in this part of the Andes, the process of sustainable development that has been implemented, and the critically detrimental lack of a gendered perspective in the deployment of this strategy (Palma, 2015). It is very difficult to affirm that the process is sustainable if nearly half the population is not participating in the discussion regarding the choices they have and sharing their own experience of it.

As part of my fieldwork, women were deliberately incorporated into the interviews, despite their lack of direct participation in organizations or town halls where issues regarding the mine were discussed. Most of the interviews were

conducted in their homes; another interview was performed in a group where men and woman had the chance to discuss the topic. The following are some of their reflections regarding the “process” and women’s participation:

Employability in the mine:

“In my case, for instance, I could get divorced but I’m a dependent woman because I don’t work and have two children and I wanted to have children, not my mother, so if I work who is going to take care of my children? I would have to delegate that task to my mother and my mother already raised her kids so why would I ask her to raise mine?”

(Interview, Cuncumén, 2011)

Employability in the times of the “*hacienda*”:

Me: "At that time, women did not work the land?"

Andrés: "Many women who did not have sons big enough, who were kids, women had to work to fulfill their duties."

Me: "Besides the work of their husbands?"

Andrés: "No, if they had a husband the husband worked, I’m talking about the people who were alone, those who had family when they were young and didn’t have the luck of getting married, so they [women] had to fulfill the obligations in the “*hacienda*” until they had a kid that was big enough."

(Interview, Cuncumén, 2011)

Knowledge about the tail dam risks:

“[My grandmother] came every day in the morning when I was sleeping, [saying] ‘it’s going to fall, the dam is going to fall!’ and I woke up, when I was

a kid, and I thought that this thing [the dam] was just like water, even when I was from here, if I wouldn't have had the chance to learn about the process I would have never lost the fear. All my life."

(Interview, Cuncumén, 2012)

Participating in the resistance:

"Well, when the strike on the road took over in La Higuera, there were a few of us women - at that time it was the wife of the city councilor, there was another one, and the mother of Laura, my sister and I - there were just a few of us and sure, our vision, because we were young, we tried to get involved in this."

(Interview, Cuncumén, 2012)

"I'm going to tell you a personal experience, this happened on a Sunday, I was on the strike, when the special forces police were here, and we had to hide and I was with my daughter and I was there until three in the morning, and when the special forces of the police came I left because I wasn't going to expose her [...] and so the next day I went to the soccer field and a man came and started to yell at me [...] this was during the conflict and he told me many things and I told him, 'I don't have anything to be grateful to the mine for, because it was the agriculture in which I worked, agriculture is what helped to educate me and my kids,' and the guy treated me pretty bad. I have witnesses and those things, and I think that I'm one of the few

women who was there and who was confronted at first sight, in the street, 'what are you doing here and doing there...' [...] those were difficult days because we were judged, and that happened to me, to my husband, to many people, to those who participated, in Tranquilla we were only a few, even though it is certain that many had the vision of defending the country, but it was from the outside..."

(Interview, Cuncumén, 2012)

Me: "If we leave women out of the space where the discussion is happening, we are leaving a vision behind, more than a vision..."

Camilo: "It is very *machista*."

Marcelo: "A big part."

Luisa: "We women erase ourselves from the map."

(Group interview, Cuncumén, 2012)

In these interviews, different dimensions regarding the participation of women in the process emerged. First of all, there is a clear historical understanding of the practices that are meant for women and men in the valley. Most of them are segmented by their participation in the local economy. When the valley was still an "*hacienda*," only women who were "not lucky" enough to have a husband had access to participate in the production system; later on, becoming the principal caretaker of children banned women from participating in the labor force of the mine. When women have become involved in resistance efforts, some men - even those opposed to the mine - have scrutinized and questioned their

inclusion. Women also describe their participation as triggered by concern for the future of their children. Also, it is clear that their lack of participation in the production process and their assumption of gender roles determine their knowledge regarding the risks associated to the mine. This situation contrasts with the characterization of women that the company portrays in its sustainability reports, which contain illustrations depicting them as participants in the production process. For instance, if one observes the cover designs of the eight sustainability reports published by the company since 2006, in four of them the main image depicts the Andes or the company's facilities; one has a comic characterizing different actors of the community who are holding hands, with only male characters wearing helmets, which is a direct reference to work in the mine; and three covers depict women's faces. One of these three contains the phrase *"Nos Proyectamos Contigo"* (*"we envision us with you"*), the second reads *"Creciendo Juntos"* (*"growing together"*), and on the most recent report cover, a woman wearing a helmet is accompanied only by the words "Los Pelambres" (See figure 2). In the last sustainability report (Minera Los Pelambres, 2014), there is a page dedicated to the *"Incorporación de la mujer"* (*"Incorporation of women"*) in which the company declares:

"From its origins, the company has reinforced female inclusion, securing equal conditions for access and development in the company through the subscription to the agreement of good labor practices with the SERNAM (*"Nacional Women's Service"*) in 2011 and participating in the *"Mesa Mujer*

Minera” (“*Mining Woman Committee*”) in the Coquimbo Region since 2012.”

(Minera Los Pelambres, 2014, p. 29)

The actions described by the company resulted in an 8% female labor force in 2013, which is 2% higher than the national average rate of participation of women in the mining industry (Minera Los Pelambres, 2014a). While there is a clear public relations effort to characterize the sustainable process as gender concerned, the homogenization of the population within the so-called process does not incorporate the gendered experiences of the women of the valley. The report does not mention the origins of these women or details about the type of work they perform inside the mine, though it does claim that 10% of women working in the mine perform a role of leadership.

The Archives

As we have discussed in this chapter, the incorporation of the discourse of sustainable development into the process of mining production has helped Los Pelambres to pave the future development and expansion of its operations. Though not every community member of the Choapa Valley is involved in the process, the sustainability discourse aligns the vision of the company with the vision of the state, and the vision of the community. However, to sustain the process, the company needs to be able to provide information supporting their operations in the Valley that aligns with the vision of sustainability. Therefore, if we are to understand mining operations, it is crucial that we question the way data is produced and how this data builds upon a fixed idea of nature commanded by the company.

The facts that construct the narrative of the Andes have been intermediated by the sciences, instruments, disciplines, and professions that provide an argument regarding nature (Latour, 2004). In the case of the Choapa Valley, the main argument regarding the state and history of nature comes from data provided by the company, which has established a baseline study that characterizes the territory. With the help of a community member, I gained access to the narrative part of a document given by Los Pelambres to the environmental authorities to receive authorization to proceed with the expansion of mining operations in 2003. *“Estudio de Impacto Ambiental: Proyecto Integral de Desarrollo Minera Los Pelambres”* (*“Environmental Impact Study: Integral Development Project of the Mine Los Pelambres”*), prepared by the external agency Gestión Ambiental Consultores S.A. and signed by Los Pelambres in April of 2003, provides a clear example of the way nature is narrated through the company's lens, creating a materiality that satisfies mining interests. Chapter two of the report incorporates a narrative that explains the logic in which the expansion of the mine needed to be authorized by the environmental authorities, and in the end, Los Pelambres received approval to proceed with its plans.

In the report, the company introduces a baseline study that describes current and prior conditions of the valley in terms of air quality, water quality, geomorphology, hydrology, level of noise and vibrations, socioeconomic traits, and use of the soil, among others. As previously described in this dissertation, some of the most pressing issues for the community members of the valley are the quality of the water, the quality of the air, and the use of the soil for

agriculture. Regarding these topics the environmental impact study prepared for the company declares:

“In the area of the river Los Pelambres, before the settlement of the Los Pelambres Mine in the zone, the superficial water did not meet the standards required by the current legislation, this being low quality water.”
(Gestión Ambiental Consultores S.A. & Minera Los Pelambres, 2003, p. 19)

“Surrounding the area of Los Piuquenes Plant, the current water quality is similar to the water quality before the settlement of Los Pelambres in the zone, which exceed the norm for some elements.”
(Gestión Ambiental Consultores S.A. & Minera Los Pelambres, 2003, p. 22)

In this case, the report does not mention when previous measurements were performed, by whom, with what purpose, or for how long the study of the water was conducted.

The report also describes the area where the mine operations take place:
“In the territory that involves the mine area and El Chacay area, there are no communities, only the infrastructure of the mine Los Pelambres for the use of their workers. The closest community, which doesn't form part of Los Pelambres' infrastructure, is Cuncumén, located approximately 9 kilometers away [...] In the town of Cuncumén, there are small farmers who are mostly dedicated to growing grapes for *pisco*.”

(Gestión Ambiental Consultores S.A. & Minera Los Pelambres, 2003, p. 22)

This sort of information, provided by the company in their document, is presented as neutral facts that represent the historical narrative of the Andes.

The narratives emanating from local communities are not considered. To this day, if the community members of the Choapa Valley want to prove that their memories are also facts about the Andes, they would have to do so by using the same means that the company uses. So far, their experience and their memories have not been validated before a court, before the company, or before the state¹⁰. The commodification of nature that turns it into an asset (Kosek, 2006, p. 67) remains undisclosed in the report, which represents an historical artifact that supports a neoliberal narrative, disallowing alternatives for the Andes in the past, present, or the future.

This accommodation of the Andes is also an anachronic exercise that displaces alternative representations and uses of the mountain that were tied to the customs of the local communities. For instance, the valley and the mountain were used for agriculture and stockbreeding before the settlement of the mining company, as described in the previous chapter. However, in the sustainability reports published by Los Pelambres since 2006, there is a tendency to frame the Andes as an inherent mining space, rather than recognizing past uses of the territory. The same description can be found in the document requesting expansion of the mine, in which Los Pelambres characterizes the soil of the

¹⁰ The company has recently started the implementation of 27 measures to alleviate the emission of dust in the air, which have been part of the requirements that the community has enforced on the company through the *"mesas de trabajo"*. However, despite the fact that the company is investing in controlling its dust pollution, it hasn't publicly recognized its impact on the environment.

extraction area as land without agricultural potential (Gestión Ambiental Consultores S.A. & Minera Los Pelambres, 2003, p. 23).

According to Chakrabarty (2000), “in order to understand the nature of anything in this world we must see it as an historically developing entity, that is, first, as an individual and unique whole—as some kind of unity at least in potentia—and, second, as something that develops over time” (p. 23). In other words, to avoid the homogenization of historical narratives, it is necessary to understand the Andes in a specific context that is intersected by different historical processes that happen at different moments, and not reduce it to the singular entity described through the instruments constructed by the company.

Los Pelambres implements a logic that searches for the origin of the history of the mountain, using minerals and “natural events” as a justification to naturalize the mining industry. Los Pelambres’ quest for the origin confronts the quest for the understanding of a genealogy of the Andes. When the company describes the origin of the Andes and offers a linear explanation of the events that happened inside the mine, they are appealing to a singular, cohesive, self-explanatory reason that justifies their presence.

Such is the description included in the environmental impact study from 2003, in which the company makes clear that the evaluation of the expansion project should only involve new interventions in the space - all previous endeavors of the company are out of the discussion (Gestión Ambiental Consultores S.A. & Minera Los Pelambres, 2003, p. 12). They cannot be re-evaluated, since they have already been approved in the past. In a certain sense,

the accumulation of facts builds a linear history through the approval of previous reports presented to the authorities. It is a relation between the state and the company that is defining what can or cannot be contested.

To pursue a genealogy (Foucault, 1984) of the Andes opens the possibility of avoiding the same monotonous finality of capital in order to look for singular events that do not operate in the logic of an archive of power. We need to question the strange unity of science, its dispersion, ruptures and domain of positivities, and to make visible the way it mutates according to discursive formations (Foucault, 1982).

What Los Pelambres builds is a static memory of the Andes that serves as a tool for administering the territory and avoiding confrontations with alternative narratives, mainly those that come from the local actors, such as the example previously described in this chapter when a community leader told the company's management that they were leaking toxic waste into the water supply. He was reprimanded in public and threatened for his actions, but then he was asked to attend a private meeting in which the company recognized the leaking and asked him to come forward with any future concerns. In this episode, a broader audience had access to the dismissal of the community member's information, while in private a new story was spoken. The articulation of the past is meant to serve the interests of the present, by tracing a line that defines what can and cannot be remembered; or in this case, what could be heard or not in the public.

Designing a historical narrative that frames the mining industry as a timeless part of the Andes can be interpreted as an investment that helps to sustain the idea of process and continuity that capital needs to maintain its constant growth (Harvey, 2011). The work done to narrate the history of the Andes also perpetuates the idea that there is a constant process of production and persistence, disregarding any intervention that may suggest a narrative of the Andes that does not include the mining industry at its core. In this relationship between the present and the past, the use of technologies is crucial to legitimize the narrative.

The following is an excerpt of my field notes from 2012 that makes visible the monopoly held by the company over the history of the Andes:

Cuncumén, July 7, 2012.

8:30ish: A community member comes to the place where I'm staying. He says they are going to do an inspection of anti-dust measures in the mine. This morning the town woke up to a thick cloud of dust that embraces the air.

9:30ish: We arrive at the gates of Los Pelambres. The group is mostly composed of the people who participate in the "comprehensive plan" in the area of the quality of the air. We are told we can't go further until someone from the company who works on community issues arrives.

We've been waiting for more than an hour; while we wait, people grow anxious. From the gates we can see the cloud of dust that emanates from the open pit, which slowly starts to dissipate. People say this is

because the company's workers started to spray water on the dust, which is what they are always supposed to do to avoid this sort of event.

11:05: A representative of the company shows up. He greets everyone and lets us know that we will go to see each station in the mine where the anti-dust mechanisms are functioning. We cover the mine area; we are presented with every single mechanism. People from Los Pelambres take special care of describing the uniqueness of these mechanisms to me. They have a Foam Canyon that catches the dust, which is the only one like it in the world; Los Pelambres designed it based on suggestions given by community members on how to ameliorate the problem of the dust in the air. The company has also incorporated a mechanism called “Dust-A-Side,” which is a technology present in South African mines.

Around 2:00: We are on our way back from the inspection; an environmental engineer from the company has also joined us. I start to talk with him and a community member about the dust. He insists that the dust is something natural in this valley. According to him, it has always existed in this place because there is a wind that comes from the side of Argentina that goes all the way down through a geographical hollow that formed in this area. He mentions that they comply with all the regulations, “even” with European standards.

I ask a community member how long he has lived in Cuncumén and he says for his entire life (he’s in his fifties). I ask him if he remembers this problem with the dust from the old days. He mentions that it didn’t

exist in the same way. He says it is true that sometimes there was some dust in the air, but it never affected anyone.

These episodes of dust pollution make people feel sick and are notorious in ways previously unseen in the area. When I speak with people about the dust problem, they are pretty aware that the dust comes from the mine and not just from the Andes as the company suggests. When they are asked how they can tell the quality of the air has declined, they describe the thick cloud of dust that they have been frequently forced to breath since the mine started its operations, and they have also mentioned that the color of the snow also serves as an indicator. Snow used to be white but now looks brown because of the dust in the air, they say.

* Days later I spoke with the director of Los Pelambres' community relations, and he maintained the same history offered by the environmental engineer.

(Field notes, July 2012, Cuncumén.)

This example reveals how at least two competing versions of the same event are created using different types of archives, one based on locals' observations of changes in their environment and the other upon claims of the apparently fixed behavior of nature.

Something that is new in this discussion is the way the company frames the dust problem by allocating responsibility to the agency of nature, while most of the time Los Pelambres' discourse has framed nature as an entity that can be

tamed by the technologies of mining production. Contrary to this discourse, in the 2003 environmental impact study, the company assumed responsibility for the dust emissions in the air:

“In this zone there is the emission of particulate materials mostly from the traffic flow and [mining] plant”

(Gestión Ambiental Consultores S.A. & Minera Los Pelambres, 2003, p. 17)

However, in the sustainability report of 2012 the company declares:

The particulate material has been a controversial topic for the company and the neighboring communities. According to the studies performed, the origin of the dust comes from different sources: the industrial area, agriculture [...], hills and naked hillsides with loose materials. [...] Chile allows a range of up to 150 micrograms by cubic meter, historically in the community of Cuncumén it has been registered a range value lower to 25 micrograms by cubic meter”

(Minera Los Pelambres, 2013, p. 61).

The term “historically” is being used quite loosely in the report, since one will find that the data about the quality of the air considers only three consecutive years, 2010, 2011, and 2012. Moreover, in a letter signed by Alberto Cerda Mery, General Manager of Los Pelambres at the time, which was attached to the copy of the report, he mentions that the report “contains the data from previous years with the purpose of contextualizing the tendencies in the management of the different areas of operation.” Again, the company is claiming a tendency after the disclosing of information gathered over just three consecutive years.

After the inspection of the mine during the dust episode in July 2012, the section of the “mesa de trabajo” in charge of air quality gathered to prepare a public press release to inform the community of the measures put into action to take care of the dust emissions. After that meeting, in which professionals from Los Pelambres and community members met at the company's offices in the city of Salamanca, the “mesa” didn't release such a document. As described by a community member who was part of that meeting, they seemed to be in agreement during the meeting. However, the document they received to check and approve before its release didn't match the conversation they had. The person in charge of taking notes during the meeting and preparing the draft of the press release was a Los Pelambres communications staff member, who also later distributed the document. This episode will be discussed in detail in a following chapter in which the role of media is discussed in detail.

As explained earlier in this dissertation, the dust pollution is one of the most visible impacts of the mine's production, highlighted by every person interviewed during my visits to the valley. In one of those interviews, a community member also recognized the lack of a baseline study to offer a more complex representation of the valley, and not just the interpretation put forth by the mine in the last couple of years. He mentioned:

“If you didn't have a baseline study and we didn't have that baseline study, those are the learning experiences for the future, we need to statistically study 90 years backward .”

(Interview, Cuncumén, 2012)

As is made clear after reviewing these interactions between Los Pelambres and community members, the new relationship established after a discourse of sustainable development is characterized by leaving behind the visible intervention of the state. Now the state has been relegated to the role of facilitator of the establishment of the company, by depoliticizing the zone, avoiding confrontation with the company, and facilitating dialogue between community members and Los Pelambres' representatives. This sort of operation is not unique to the Andes. Ong's work (2006, 2012) describes the articulation between authoritarian politics and neoliberal reason in Asia, which has promoted a flexible approach to capital circulation and pushed for a depolitization of the territories, promoting a technicalization of the discussion that focuses on nature's management and local and national economic development.

Characterizing technology as a depoliticized space that apparently avoids irrational arguments is a common practice used by a neoliberal rationality. "Indeed, there is a tradition in social and political thought which sees technology as a way out of the apparent irresolvability of political controversies" (Barry, 2001, p. 7). Technologies are then seen as instruments that allow us to transcend ideological differences.

In the case of Chile, in a book recently published about the way Chilean companies adapted to the implementation of Milton Friedman's economic policies, Ramos Zincke (2013, p.168) argues that social scientific knowledge is given less importance by different researchers in the country. According to Zincke, sciences and technologies are considered to play a secondary role,

though they are central for the innovation of the industrial sector. He argues that sciences allow companies to perform a governmentality power within the actors associated with them. I would argue, though, that this level of influence does not only reach the actors directly associated with a company. Because companies operate as part of a national and global system, they also affect the rest of the population of the country in direct and indirect ways. Technology and science transcend the space of the “scientist” and conquer what Barry calls “a technological society,” which is a society that models political invention after technical knowledge. This sort of society creates zones that facilitate the “circulation of technical practices and devices” (Barry, 2001, p. 3). The role of the state in this society is to defend, connect and reconstruct these spaces in which are found many different entities, such as international organizations and individual persons and firms.

There seems to be a depreciation of the role of the state and of governments in these articulations, which conceal their interventions as they continue to operate in the territory. Throughout my years of work in the Choapa Valley, one conversation became frequent, a conversation in which community members pointed at the state and its lack of intervention in this zone.

When the president of Chile at the time, Michele Bachelet, decided to step aside from the conflict introduced to her by a community member and encouraged him to promote a direct relationship between Los Pelambres and the local communities, it made it clear that the state, represented by the Bachelet, was not willing to intervene in this zone, despite the evidence

presented. She appealed to the established “norms” as the boundary of state actions. At the same time, the citizens of this valley were asked to come up with a solution that then needed to be presented by them to the company’s management, which would require a certain level of expertise and technical knowledge about environmental and social reparations by the habitants of the valley. Bachelet seems to assume that these skills are part of the community’s knowledge¹¹. By “privatizing” the solution to the conflict, Bachelet’s government retreated from a confrontation and let the private sector manage the territory and the ongoing conflict.

The privatization of the public discussion regarding the Andes was brought about using a strategy that channels the discussion toward technicalities, which has turned the role of the state into the development of a political technology that optimizes the privatization of public decisions under the light of an extractive technology fed with knowledge produced by the company. The role of the modern state, then, is to “promote and impose itself as the stable center - definitively - of (national) societies and spaces [...] as both the end and the meaning of history” (Lefebvre, 1991, p. 23). Through the conversation between Bachelet and the community member we can note how the state plays a role of putting an end to conflicts and an end to emerging resistances.

Conclusion

¹¹ Since 2008, community members and representatives of Los Pelambres have met to discuss issues related to the quality of the air and water. Most of the technologies developed by the company to tame the pollution of the air are extractive technologies designed after the recommendations of the local community members, which has put the company at the leading edge of technological innovations in the management of pollution.

In the current scenario of process and sustainability, most of the community members are put in a position in which they are subjects of circumstance. Without political support or intervention in this space, they start to develop popular technologies to navigate this new configuration of the Andes. The participation of community members in the public discussion of the conflict has allowed them to gain particular knowledge regarding the functioning of the mine, making them part of the conversation opened by the company to relieve some of the stress on their relationship. In these circumstances, some people might find it more difficult to gain access to this knowledge, especially women, who tend to be less vocal about their thoughts, or at least avoid sharing them in public due to the gender relations of the community. The dynamic imposed by the company has also determined most of the conditions in which dialogue takes place between parties. First of all, the members of the community who want to participate in the conversation must acquire certain basic knowledge that allows them to sustain a conversation regarding the technical issues of the mine. Cultivating these “environmental subjects,” whom Agrawal (2005) describes as “people who have come to think and act in new ways in relation to the environmental domain being governed” (p. 7), is a function of spaces where nature and local communities are under the pressure of capital development. The modulation of these new subjects is part of the crystallization of new materialities in the Andes. Through the practice of the discipline of bodies and regulation of the population (Foucault, 1984, p. 262), the communities of the Choapa Valley had to learn to engineer themselves in relation to the interests of the company’s production and to

establish a new sort of relationship with nature, while at the same time fashioning themselves as subjects who foster resistance; for instance, by building their own archives regarding the pollution of the air.

Popular technologies are made visible through observation of the territory, interviews with key actors, and the analysis of archives produced by the company and those of local organizations, which show how vital they are for the subsistence of an analogical description of nature and populations. Without them, it would be easier for the narrative of the company to prevail entirely in the Choapa Valley, which is not the case as exemplified in the interviews. By analyzing in detail the necessary knowledge and operations that the discourse of sustainability requires to be deployed in zones of conflicts, this is a first attempt to position a discussion in the country, despite the influence that this industry has over the administration of social life, human rights, and the local and global economy.

Considering Los Pelambres as a case study has become a national and international issue (Fundación Pro Humana, 2013), because more and more institutions are looking at the “good practices” that this company has been able to implement in the territory. Besides, in the words of Jean Paul Luksic, chair of the board of Los Pelambres, the company is trying to position itself as the preferred company for its stakeholders by means of becoming the world leader in sustainable development (Minera Los Pelambres, 2011, p. 5). Therefore, it is necessary to study Los Pelambres, to alter the hegemonic discussion and

observe the implications of the mining industry's manifestations in Chilean society and territory.

In the next chapter, I examine how museums become part of the process of mining by fulfilling the company's need to promote a “new capitalism” that sustains the continuity of the mining process. Through the museums we will observe how Los Pelambres controls what can be seen or hidden, and how it produces visual memories that are naturalized in the local and national territory.

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CHAPTER 3

VISIBLE MATERIALITIES: MUSEUMS AS EXTRACTIVE TECHNOLOGIES FOR MINING

“In the beginning they requested something from me that perturbed me a lot, they told me, ‘we want to build a mining museum,’ [...] The rock arrives in a context; if we are going to build a mining center and we are going to build a mining museum, the rock was the first thing to be installed, [then] the rest was to be built around it.[...] Now, how to install it? Moving it required a huge engineering plan from the Universidad Católica and Los Pelambres, I mean, it’s assumed that it weighs between 15 to 17 tons. [...] It is a rock that Andróniko Luksic chose to put in the Los Pelambres museum, it is a rock chosen by him because he liked it, and it was at the gateway of the Los Pelambres mine, I haven’t been there, that’s what I hear. The labor involved was very, very well planned because it had to be safe, all variables were extremely well planned and then the relocation was done during the summer, when it was accessible by land, then there was a massive engineering plan, the route was already planned. The building was already planned, so the rock had to be placed according to all the measures in order for it to end up where it was supposed to be.”
(Militza Augusti, Museologist Andróniko Luksic Mining Center, Santiago, 2014)

Introduction

In this chapter, I will discuss how museums have become part of the process of mining production and how they create a new materiality based on what is seen and reproduced within their walls. Through the museums, these materialities, modeled on the discourse of sustainable development (The United Nations, 1987) and neoliberal technologies (Tironi & Barandiarán, 2014) deployed in the country, constitute a vital part of the copper mine’s ideological and cultural mobilization in the context of the retreat of the state from zones of extraction and conflict. Museums become an extractive technology, fitting scientific records and public memories into a narrative of production that reaches into the vastness of history to find the relief that the company requires. Through

the articulation of museums, the past serves the interests of the present by tracing a line that defines what can and cannot be remembered, and what should be seen or hidden.

This chapter analyzes two museums owned or funded by Los Pelambres, the “Museum of Copper and Sustainable Development,” located in Los Vilos next to Los Chungungos dock, and the “Andrónico Luksic Mining Center,” located in the engineering department at the Pontificia Universidad Católica in Santiago.

The Mining Agenda Within Museums: a preamble

Los Pelambres’ participation in the administration and funding of museums includes the Museum of Copper and Sustainable Development located in Los Vilos, Coquimbo region, a seashore location where the copper and molybdenum that Los Pelambres produces is shipped to the rest of the world; the Mining Museum at the Pontificia Universidad Católica, where the Andrónico Luksic Center was built to host the department of mining engineering; the Museum of Contemporary Art, which has served as a center for teaching and learning for generations of Chilean artists; and the Park Monte Aranda, located in the Pupío Valley (next to Choapa Valley), which will soon display all the pre-Hispanic artifacts that the company removed from the community of El Mauro, where Los Pelambres built Latin America’s largest tail-dam.¹²

My interest in studying museums sparked in August of 2013. While I was checking my news feed, a newspaper article caught my attention. The article announced that Los Pelambres and the Museum of Contemporary Art in Chile

¹² Today, the artifacts that were removed from El Mauro are being organized and prepared to be part of a permanent exhibit in the Monte Aranda park.

were inviting artists to innovate their technique by working with copper as the main material of their creations. The call for participation in the contest used technical language strongly geared toward the development of innovations for copper use and the materiality and visuality of the mineral in artwork. The call was introduced as follows:

"In this year of innovation, we want to encourage reflection on the possible uses of copper as a resistant material, durable over time, recyclable, of high thermal and electrical conductivity, with antibacterial and antifungal capacities, which forms part of the world of artifacts that surround us."

(Museo de Arte Contemporáneo, 2013)

The cooperation between these two institutions dates back to 2006, but over the past year it has become more visible. At a national level, the partnership between the company and the Museum of Contemporary Art is one of the most relevant of its kind, involving one of the main museums in the country and making a large social impact in the Coquimbo Region, where the company bases its extracting process, through the facilitation of art exhibitions in the zone.

Los Pelambres' does not only provide funding for the museum; it also defines the content and materiality of art production in the museum. On September 6, 2013, the director of the Museum of Contemporary Art appeared on the news to launch the contest. Explaining the museum's relationship with the company, he stated:

"For us, the people who work in art, it is not difficult to dream. All the time, we are inventing things, inventing new possibilities, therefore we are

constantly submitting our challenges and they [Los Pelambres] set our feet on the ground, and out of that, *reality* comes out" (Acosta, 2013). In this quote, the description of the role of Los Pelambres mine invokes the materialization of ideas into actions, dreams into artifacts. The idea of grounding artistic minds onto a space of reality is assimilated as a benefit to be gained by incorporating mining interests in the art world. There was no public, self-reflective process undertaken before the company incorporated their agenda into the artists' creative work, and no explanation of the company's right or ability to judge artists' capacities. In this scenario, it is necessary to question how ideas are materialized and how that materiality becomes part of the process of mineral extraction.

The analysis of the museums in Los Vilos and at the Pontificia Universidad Católica will help us understand not only how the mining process is reflected in this space, but also how these museums produce cultural practices that result in material interventions in this space and the way they become part of the extractive technologies of mineral production. For instance, we will see how the order of the artifacts within the museum creates an internal narrative that becomes part of the whole mining process, explaining the technicalities of mining and building a regime of truth (Foucault, 1984), which creates discourses that explain what nature is to the museum's audience.

These museums also serve as a way to transform an unfamiliar and hidden event into a familiar event. According to Morley (2000), "almost anywhere in the world, experience is increasingly 'disembedded' from locality and the ties

of culture to place are progressively weakened by new patterns of ‘connexity’” (p. 14). For instance, even though the Museum of Copper and Sustainability is located close to the zone of extraction, the mediation of the company within that space aims to transform the local experience of mining into a sanitized new materiality, where there is no room to question the performance of the company or to display counternarratives of the mining process in the zone. Visiting these museums highlights the relevance of understanding space as a social construction that is experienced, but that at the same time can productively shape the future (Lefebvre, 1991).

How things become real through a museum?

The idea of “what is real” is always present and circulated through museums. One example is the agency that the director of the Museum of Contemporary Art gives to Los Pelambres in their role of creating materiality out of the “artists’ minds” that are too ethereal and lack grounded ideas. In the words of Carol Duncan, “we can also appreciate the ideological force of a cultural experience that claims for its truths the status of objective knowledge [...] to control a museum means precisely to control the representation of a community and its highest values and truths” (Duncan, 1995, pp. 8–9). This concept of the real is also called “fixed reality;” Gonzalez (2008) borrows this term from Hommi Bhabha’s post-colonial analysis of historical narratives and applies it to the analysis of museums, in which “fixed realities” take the shape of “totalities” through displays, signs, subjects, and the exercise of power. The role of these “totalities” escapes the mere idea of materiality of the artifacts that inhabit the

museums by offering narratives that address “historical, geographical, or aesthetics ties between viewing subjects and the objects they encounter” (A. González, 2008, p. 67), resulting in the subjection of the audience through their experience inside the museum.

While the meaning of images is dynamic, the concept of “fixation” introduced by Bhabha (1999) denotes rigidity over an invariable order of things, the establishment of a means to know and identify what goes where and how something that is previously known will repeat itself unalterably. This “fixation” generates a probabilistic prediction of truth and offers a way to learn about the Andes. In this case, to incorporate the concept of “fixation” into the analysis allows us to raise more questions. What do we learn from museums about the role of the local communities within the mining industry? How are sciences and technological innovations framed within an innocuous narrative of mining production? “Fixation” also offers a means to interpret the concept of materialization of realities. De Landa’s (1997) approach to geological sedimentation compares the geological process of rock formation to the historical narrative process, since both are dynamic elements and both lack linear causalities. This description invites us to think of the materialization of the Andes as a constructed realm and not as a mere fact of nature.

Memory practices (Bowker, 2005) and fixation are core characteristics of “extractive technologies,” which aim to dismantle any argument that challenges Los Pelambres’ historical description of the Andes and dissimilar experiences of nature. If we consider the current conflict between Los Pelambres and the local

communities of the Choapa Valley, we see that the construction of the real allows one historical narrative to prevail over the other. In the case of the Andes, this construction takes place through the shaping of material and immaterial reality, bringing specific representations of the mining process to the forefront, while placing others in mythical, immaterial realms.

For example, the mining process's impacts on the transformation of the environment and people's routines are evaded in the content of the two museums that will be analyzed in this chapter, despite the fact that this is one of the most frequent topics that emerges from the interviews conducted in the areas in which the mine operates. Absent of these narratives, a visit to the museum in Los Vilos begins by offering a summary of the presence of Los Pelambres in the zone, which is presented as follow:

“Los Pelambres mine forms part of Antofagasta Minerals, a company of mostly national capitals that exploits different deposits of copper in Chile and abroad.

The company dedicates its efforts to the exportation of concentrated copper and molybdenum. About 7,000 people work in the company, whose output constituted 55% of the gross domestic product of the Coquimbo region between 1996 and 2006 [...] This company operates under the highest technical standards, especially ensuring the protection of the environment. The care that [the company] demonstrates for the community as a whole, including the people and their surroundings, has transformed it into an attractive place to work... ”

(Field notes, Los Vilos, 2012)

As a contrast to this depiction of the company in the museums, the following are some examples of the conversations I held with community members, who describe the impact of the mine in the zone:

Change on the use of the soil:

“All people who lived on the border of the mountain had animals, they made their living from the goats they had. We raised sheep, goats, cows, those were the animals that were raised [...] the mountain that they are using now for the mines were livestock rearing areas, not mining [areas].”

(Interview, Cuncumén, 2011)

Change on people's routine:

Diego: “For example we lived in the neighborhood, and from there we went to Huitrón, until we reached the place where the tail dam is [located], because my grandmother had the farmyard with goats, they lived there...”

Me: “So, the tail dam didn't exist at that point?”

Diego: “No, that was farmland, and on our way to that place, we spent time at people's houses, they served us “*huesillo con mote*” during the summer, “*empanadas*” with milk, a piece of bread with butter or with cheese [...] that was the kind of courtesy that existed, but that doesn't exist today.”

(Interview, Cuncumén, 2011)

“For instance, I live over there and when I wake up, the first thing I do is to look down to see if there is dust, it has become a routine. I wake up every morning and from my bed I open the curtains [to see] if there is dust haze.”

(Interview, Cuncumén, 2012)

Change on productive occupations:

Me: "What do you think is the biggest change that the mine has produced in the life of Cuncumén?"

Camilo: "Well..."

Luisa: "That now everyone has a job."

Marcelo: "Now the youth, they all have automobiles, and that's a reason to be proud, you see the kids with their good cars and that's something that was never seen before... that's what I was saying."

Luisa: "If before, there were three trucks here, that was a lot, but not anymore, [now] at each house there is a car."

Me: "As farmers, would you have reached this economic level, the kind of houses you have, the kind of cars you own?"

Luisa: "No, it is not enough, for instance if we wanted to have a second house there is no way we could have made it."

(Group interview, Cuncumén, 2012)

Me: "Do you think that things would be different if the mine wasn't here?"

Alex: "The valley would be pretty, but we would have to move to Calama or Iquique, to migrate to look for a job in another place. It is nice to live here but there is not enough to live on, farming is not enough."

(Interview, Cuncumén, 2012)

Change on the environment:

“They still don’t want to budge, they want to keep the tank with fresh water, which when it rains is like a cup of hot chocolate and then turns green. We never had that [sort of] water, all the salt, the oil, the petroleum, the concentrated, the mine waste, all that goes down, do you understand? If the water were fresh, we wouldn’t have the sediments and the amount of pollutants that are now in the tank of fresh water, which is impressive the quantity of pollutants. This is why I insist on the arrogance of Pelambres, which doesn’t want to budge, they don’t want to recognize that they simply screw it and they keep screwing it.”

(Interview, Cuncumén, 2012)

“We are worried, and those things also start to make us sick, I at least will not let it go and will fight until the end, until the end of our lives. Today we don’t want to cultivate the land, my wife also owns a piece of land, it is because [we think about] what would be the purpose of cultivating the land if the mine is polluting and then we eat that polluted product, and so we want the mine to be responsible today for the impacts that it produces.”

(Interview, Cuncumén, 2012)

As previously discussed in this dissertation, one of the most common topics raised in the interviews was the impact of the pollution on the air and water. Together with the pollution, there are other changes that have become part of the dynamic of the community that are made invisible through the museums: changes in the use of the land; changes in the way people relate to and open their houses to the rest of the community members; the change of a person’s

routine who now each day needs to check the quality of the air before he gets up. What is visible at the entrance of the museum is the economic growth that the company has brought to the region, which as a consequence, noted by community members, has decreased unemployment and offered access to goods that were difficult to attain in the past. What is inside the museum becomes reality and truth, it becomes a new materiality.

Sanitizing mining production: what shall we see?

In the work of T.J. Demos (2013) regarding the politics of sustainability in connection to art, the author writes that “we must be aware of the fact that whatever we know about the environment [...] we owe to the diverse practices and institutions that represent it” (p. 18). Applied to the context of mining museums, their mission seems very transparent: to create memories of mining and the material environment.

In the case of the Andrónico Luksic Abaroa Center, where the Museum of Copper and Sustainable Development is located, their mission is described as:

“The Center Andrónico Luksic Abaroa (CALA) was inaugurated on October 3rd of 2006 with the objective of *furthering industrial mining activities responsible for the preservation of the environment and social development*. Property of the Los Pelambres Mine, it is located four kilometers to the north of Los Vilos, on the southern border of the Coquimbo Region next to the Punta Chungo dock.

The center is the first permanent exhibition of Copper Mining and Sustainable Development for the XXI century, which since its inauguration

has attracted more than 250,000 visitors. Next to its facilities is the Conchalí lagoon, declared a Nature Sanctuary in 2000 and a Ramsar Site in 2004.”

(Minera Los Pelambres, 2015; author's translation and emphasis)

During the inauguration of the Mining Museum at the Pontificia Universidad Católica, built as part of the Andróniko Luksic Center, the head of the Board of Los Pelambres declared:

“Here we grow what is most precious to a country for its development, cutting edge knowledge and the human talent needed for our mining industry and at last for our country. The engineers that will be formed here will promote innovation, technologies, and knowledge that will allow us to increase our leadership in global mining.”

(Escuela de Ingeniería, 2013)

Museum of Copper and Sustainable Development

The museum of Copper and Sustainable Development is located at the entrance of the “Santuario de la Naturaleza Laguna Conchalí”, close to the “*Ruta Cinco Sur*,” which is the main highway in the country. If we look further, we will identify the pipeline that crosses the sanctuary and ends in the Pacific Ocean. This pipeline transports copper and water from the top of the Andes where the mineral is extracted, forming part of the material intervention of the company in the Choapa valley. In my fieldwork, community members have walked me through the effects of the pipe, which include the depreciation of land value where the pipe is situated and pollution produced by toxic spills. Despite these

effects, the presence of the pipe in the bay has been naturalized by the surrounding space and mediated by the presence of the museum, which at the same time naturalizes the presence of the mining industry in the zone (See figure 3).

The materials used to build the museum facilities resemble the construction materials used to build homes in the Coquimbo region; a wall of copper covered in a second phase the museum entrance. In front of the museum, there are three flags (See figure 4), the flags of CALA, Chile and Los Pelambres.

Inside the museum (See figure 5), a display shows a timeline that explains the presence and relevance of copper in the history of humankind. This exhibit uses bright colors on a dark background, displaying the mineral's qualities and uses alongside artifacts made of copper that represent the period on which each panel concentrates. The timeline attempts to associate the origin of human civilizations with the timeless existence of copper use, which is a common narrative within the company that differs from narratives offered by community members and denies their claim about the new materialities they experience, exemplified as follows:

“... before, when mining started, it didn't start with so much dust because they were small companies, small companies do not produce so much dust, nothing...”

(Interview, Cuncumén, 2011)

“The dust affects a lot [...] I blame the dust more than anything... all the avocados trees have dried out”

(Interview, Cuncumén, 2011)

“Two weekends ago, I took pictures where there was an enormous amount of pollution due to the dust, and it is because I suffer from dust allergies and this immediately activated them, and I’m saying that this happened at 7.30 in the morning.”

(Interview, Cuncumén, 2011)

“... Who’s going to stop the wind? That’s what I’m saying, they are blowing the dust because the mineral is dry, and the machinery works in a space that’s dry, and they say the minerals are humid because of the snow, but with snow or without snow they work day and night.”

(Interview, Cuncumén, 2012)

“The people here started to notice [the pollution] when during the mornings it didn't clear up, it was smoky, it was full of dust [...] these were healthy hills. These were areas for raising cattle, not for mining, and now they've become mining areas.”

(Interview, Cuncumén, 2012)

Community members link the pollution to the process of mineral extraction, while the company links it to natural causes. In the case of the museum exhibit, the timeline displayed by the company follows the logic of a timeless presence of copper and its externalities as a product of nature, contained through the

narrative of the company. In this museum there are at least three artifacts that support this narrative. First, there is the timeline that presents copper as a key element for the development of human history; in another, copper is presented as necessary for the functioning of the human body; and in the third, we see copper as part of the world that surrounds us, including our houses, computers, means of transportation, and our monuments. (See figure 6)

The nature sanctuary Conchalí Lagoon is privately owned by Los Pelambres, but is free and open to the public. This place is home to protected species and is described as a tourist destination in Los Vilos. Its characteristics are meant to give visitors a sense of proximity to the mine; while families enjoy barbeque pits, public restrooms, the shade of trees and access to the beach, community members of Cuncumén experience strict controls and delays each time they need to inspect the proper functioning of environmental pollution measures.

In terms of memory practices, the Museum of Copper and Sustainable Development's exhibits blend nature and mining into a single timeless entity, by naturalizing the presence of a pipeline that represents an imminent risk of pollution to an adjacent Natural Reserve.

The brochure offered to the museum's visitors first offers information about the animals and plants present in the reserve, and then introduces Punta Chungo, CALA and the Conchalí Lagoon. In the brochure, the company describes the loading operation zone as follows:

“In Punta Chungo, a few kilometers north of Los Vilos, is the port of Minera Los Pelambres, which is used for loading copper concentrate. Since its arrival to the Choapa Province, the Company has made important efforts to protect the Laguna Conchalí, where it opened a trail, a viewing point and a picnic area that are open to the public”. (See figure 7)

The intervened environment has become a “natural environment,” despite the continuous interventions that the company has introduced. In this space, the museum serves as a space of entry to and recontextualization of the means of mining production, colonizing through its narratives the territory's experience of the mineral extraction process. In less than 40 years, the mining industry in Chile has been able to reconfigure the meaning of the Andes into a highly invested mining zone that defines the pace of national economic growth, making itself a part of the tradition of the mountains. In less than 20 years, Los Pelambres has owned the narrative about nature in the Choapa Valley.

Education purpose museum Los Vilos

The educational purpose of the museums can also be observed in the Museum of Copper and Sustainable Development in Los Vilos, which has become a tourist attraction for locals and visitors to the area. One growing demographic that visits the museum is the local student population. The museum has even implemented a special curriculum to visit local schools and introduce the topics that are addressed in the facilities, especially focusing on the flora and fauna of the natural reserve. According to the museum administration, during the last year, 36,000 people visited it. Out of that, 18,000 live in Los Vilos; the rest

are people who participate in programs run by the National Service of Tourism that benefit senior citizens. The rest of the visitors range from children to university students. The educational role is also accompanied by a dissemination role. These roles, however, are not solely the initiative of the company. It is the mandate of the Regional Environmental Commission from the Coquimbo Region, which on April 7th of 2004 ruled on Los Pelambres' petition to expand its operations (based on the Environmental Impact Study created by Gestión Ambiental Consultores S.A. & Minera Los Pelambres, 2003 discussed in the previous chapter). The Commission allowed the expansion, but it also ordered the company to build a Dissemination Center for the Environment and Mining as a way "to compensate for effects on the economy, education and tourism" in the municipality of Los Vilos (Comisión Regional del Medio Ambiente, 2004).

In Los Vilos, one museum guide described the main purposes of the museum as such:

"To spread information about the relevance of copper in society and in Chile, to attract tourism, to facilitate the rescue of a wetland that is next to the museum, and to disseminate information about the archeological sites [from the nearby valleys]."

(Field Note, Los Vilos, 2014).

The Commission's report expressed all the mitigation measures that the company had to put in operation due to its environmental impacts in three municipalities of the Coquimbo Region: Salamanca, Illapel, and Los Vilos. As a

result, the company was allowed to built Latin American's biggest tail dam, El Mauro, and expand the longevity of the mine's extractive process.

The Commission's resolution was not well received from all. There is still an ongoing trial against the company for the construction of El Mauro and a polemic that is still in the news regarding the theft and mismanagement of archeological artifacts from El Mauro (Bustamante Díaz, 2012). These pieces were removed and stored in order to be exhibited in a new site, since the original land was flooded with the toxic residue of the mine's operations. While the artifacts wait, a new museum and an outdoor exhibition center are under construction in the Monte Aranda park in the Pupío Valley.

Addressing Social and Environmental Conflict through Museums

In April of 2014, the International Forum RedEAmérica took place in the Andrónico Luksic mining center, marking the first time the event was held in Chile. RedEAmérica was initiated in 2002 with the support of the Inter-American Foundation, an independent agency of the US government. The meeting held in Chile, supported by the Inter American Development Bank and the Inter American United States Foundation, had the purpose of facilitating a Latin American dialogue about the involvement of the private sector in initiatives of sustainable development that involve local communities (RedEAmérica, 2014).

In the first activity that kicked off the forum, hosted by the Andrónico Luksic Mining Center, Alicia Bárcena, Secretary for the United Nations Economic Commission for Latin America, addressed the public on issues of environmental sustainability from the auditorium located right next to the museum. The "new

vision” that the company is developing through its different processes has reached a point in which the buildings constructed by the Los Pelambres are becoming iconic venues for sustainable development.

Demos (2013) pays attention to the way exhibitions dedicated to sustainable development are problematic. In this case, the sole idea of thinking of mining as a sustainable activity, when the resources are not renewable, troubles the discussion. Demos continues with this critique by addressing the core of the discussion regarding sustainability and financial interests, which is that “‘sustainable development’ is defined in ways favorable to financial interests, in opposition to comprehending ecology as a field of interlinking systems of biodiversity and technology, social practices and political structures” (p.24). In the case of the Mining Museum at the Pontificia Universidad Católica, where the Andrónico Luksic center is located, the construction (See figure 8) was designed to resemble an open pit mine in the patio, and an underground mine in the rest of the facilities. The center is composed of an auditorium, a faculty club, and a museum that is located in the tower that is used as an entrance to the building.

The Engineering department at the Pontificia Universidad Católica describes the complex as a sustainable construction that privileges natural light and forgoes an air conditioner system, thanks to a technique of passive ventilation that allows a reduction of energy consumption. The complex has more than 1,200 square meters of green areas and at the center of the copper tower there is a rock that is meant to represent mining in Chile. This was the first rock

that Los Pelambres extracted and was personally selected by Andróniko Luksic Abaroa (Escuela de Ingeniería, 2013).

The tower is oriented to the Andes and is covered by copper. At the top of the tower, there is a space that allows the sun to enter through the building at sunrise. Also serving as the entrance to the building, this tower leads to the underground facilities. The stairs are built using a spiral snail shape, and on the walls are artifacts that narrate the history of the mining experience of Andróniko Luksic Abaroa (see figure 9). On the ground floor is the first rock that Andróniko Luksic extracted from Los Pelambres. The design of this entrance forces visitors to walk through the collection even if they are not looking to visit the museum, since this is the main access to the auditorium. In this building, the future mining engineers from one of the most elite schools in the country learn about the mining technologies that extract rocks from the Andes and also about the social processes that sustain mining in the country.

This building also functions as a tool for the recontextualization of the mining process, with a design that depicts the surrounding areas as being green and clean contrasting with the image of Los Pelambres mine. What we can see and cannot see through this construction functions in a different way if we compare it with the museum in Los Vilos. In Los Vilos, the museum works to naturalize the use of copper, to make it part of the territory and the history of the area. There is even an accent on the timeless nature of copper use framed as part of humanity's history. While in this other museum, the naturalization of the mine is in relation to the feasibility of having a clean and sanitized production

environment. However, both museums intend to narrate a linear history of mining and nature, linked to the development of human kind.

According to Militza Agusti, the museologist in charge of the conceptualization and implementation of the museum, the whole structure was built to reenact the experience of descending through an open-pit mine. Agusti conciliated the “landscaping with the idea of honoring the sponsor of the building, who is Andróniko Luksic¹³, who was 100% miner and the great impeller that catapulted private mining in Chile” (Militza Augusti, Interview, 2014). In the lower level of the museum’s exit, the museologist designed the “Geografía General de Chile,” which is a rock garden that represents the diverse mineral presence in the country. This garden is still under construction, but it has already begun to be used by courses from the engineering department that visit the garden to study the minerals. Militzi recalls:

“[F]or the pleasure and satisfaction of this memorial, I can tell you that there are already two courses that use the rock garden as a laboratory and for experimentation [...] because those who study geotechnical or those who study mining economy get to learn about the rocks through Google and thus lose the direct relation of observation, so the professors who work on chemistry of minerals, the ones who work on the counting of minerals,[those] that work on the geotechnical, are visiting with their students this place.”

(Interview, Militza Augusti, Santiago, 2014)

¹³ Andróniko Luksic was the patriarch of the Luksic family who founded Los Pelambres mine.

In the case of this museum, its role is openly educational, according to Luke (2002):

“History museums formalize our norms of how to see without being seen by ratifying well-practiced forms of vision or refocusing little-used modes of imagination. Using its representations of acts and artifacts, a museum rewrites conventional understandings that are manifest [...] with its narratives as each visitor starts learning how one must act in these spaces.” (p. 39)

The museum at the Andrónico Luksic Center is slowly being incorporated into the academic agenda of the university, which was its purpose from the beginning. But even more relevant is how, through the museum, the Andes is materialized in a new space right in Santiago; when students have lost the connection to experience the rocks and minerals they are learning to harvest first-hand, the museum serves as a medium that connects them again with the rocks. Thus the material creation of Los Pelambres is more “real” than ever.

Discussion

The transformation that Los Pelambres implemented in its productive strategies responds to the need of adapting to a changing environment in order to assure its continuity. The new scenario of production that Los Pelambres must respond to includes new subjects who are aware of their rights and networked media that allow information to reach new audiences. For instance, a conflict with a local community at the top of the Andes becomes an issue at a national level when it appears on the news, and becomes an international issue when the

London Stock Exchange trades the company's shares, using the relationship between Los Pelambres and local communities as an indicator of its value. As a consequence, Los Pelambres has assumed the task of transforming the local communities into allies, using the framework of sustainable development to do so (The United Nations, 1987).

This need for transformation is part of the core of neoliberalism, which functions as a political project that facilitates transformations to sustain an unrestrained global capitalism (Fairclough, 2003), which in the case of Chile was deployed as a political technology (Tironi & Barandiarán, 2014). For Los Pelambres, a “new capitalism” needs to emerge to sustain its continuity when the material impacts of the mining process become more visible. In order to overcome the territorial crises that these impacts create, the company develops the capacity to transform itself in the economic and social sphere; by controlling the forces of the content and form of the museum, the company creates an ideological structure (Gramsci, 2001) that sustains itself. In this built structure of contemplation and production, the political and social historical narratives are lessened (González, 2008). As an institution, the museum produces and sustains political and social formations, transforming itself into an ideological apparatus.

The role museums play as an “extractive technology” is crucial in changing the meaning of mineral production. By controlling the production of visual memories and by reproducing specific memory, while at the same time recontextualizing and naturalizing extractive technologies as part of the natural environment, the museums create a new perception about mining, which ensures

the future development of the mining industry in the country.

The transformation of the company is also founded on the basis of a “new technological paradigm,” by virtue of being a company at the leading edge of innovation. Jean Paul Luksic's remarks during the inauguration of the museum at the Universidad Católica highlighted this role of the museum as a space where innovation and cutting edge technology are developed. These new meanings are adopted as a fixed reality that rules the relationship between Los Pelambres and the communities of the Choapa Valley, facilitating the recontextualization of the company in the territory from an interloping, external influence to a local entity that is able to produce the history of the valley. However, these new meanings find resistance in the memory of the local population, who remember their experience with the Andes and the valley and recognize the effects of mining production. Despite the persistence and resistance of memory, the bigger audience of the museums plays an important role when framing the operations of the company in the country, which creates representations as a means of maintaining social hegemony and domination (Gramsci, 1971, p. 12) (Gramsci, 1971) in the territories directly impacted by the process of mining production, as well as in the national territories where the populations are also spectators of the mining process.

From a historical perspective of Latin America and the structure of media ownership in Chile, I will examine in the following chapter the ways community media and informal channels of information serve to circumvent the communications blockage that Los Pelambres built around its operations.

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CHAPTER 4

INFORMATION, MEDIA, AND RESISTANCE

“I was away from here, I left in 1975, I was away for 25 years, I returned to Cuncumén when the mine was already functioning and it had lost a little bit of the... the nice part [of Cuncumén], the nostalgia of what Cuncumén was before. Because Cuncumén was very special, people have asked me, did the mine influence the change in the lifestyle, in the community? I would say that not that much, not so much because I think that when the lifestyle changed was when electricity got to the community [...] that might have happened in the 1980s, maybe a little earlier, I wasn't living here, I returned in 1982 and there was already electric light. So, the electricity arrives and the first ones [to visit Cuncumén] were those who projected movies, and then TV arrives [...] the firemen came to project movies, as a way to fundraise and then television came along and that is when Cuncumén died.”

(Interview, Cuncumén, 2011)

“The electric light escapes attention as a communication medium just because it has no ‘content.’ And this makes it an invaluable instance of how people fail to study media at all. For it is not till the electric light is used to spell out some brand name that it is noticed as a medium. Then it is not the light but the ‘content’ (or what is really another medium) that is noticed. The message of the electric light is like the message of electric power in industry, totally radical, pervasive, and decentralized. For electric light and power are separated from their uses, yet they eliminate time and space factors in human association exactly as do radio, telegraph, telephone, and TV, creating involvement in depth.”

(McLuhan, 2001, p. 129)

Introduction

In the previous chapter we analyzed how mining museums require the architectural design of their buildings to continue with their purpose, just like the discourse of sustainability needs its reports to validate its influence. In this chapter we will analyze the impact of the connections between access to information and media production and ownership, and the mining production system. This chapter will pay special attention to the practices of content generation and media ownership in the national and local community media, using Critical Ethnography (Madison, 2012), Performance (Conquergood, 2012)

and Critical Discourse Analysis (Fairclough, 2003) as major methodologies to achieve these aims.

As McLuhan (2001) explains, different mediums eliminate time and space factors while creating new associations, which in the case of the Choapa Valley have a symbolical and material impact on the local communities as well as in the rest of the country. All of these mediums are connected through different associations, which are part of the fluidity and sophistication of the mining system. Through the analysis of national and local community media examples, we will explore how knowledge is pursued by the company and the resistant communities, developing popular and extractive technologies in different media platforms and controlling the different associations made between the mineral production process and its impacts. As Foucault declares, “knowledge is also the space in which the subject may take up a position and speak of the objects with which he deals in his discourse” (Foucault, 1982, p. 182); through the following media examples we will explore how Los Pelambres and resistant community members of the Choapa Valley, especially OCAS members, work to create institutional or dissident archives that critically impact the development of skills in the territory.

Neoliberalism and Community Media Resistance: from Latin America to the Chilean Andes

The emergence of Neoliberalism in the 1970s as a political technology in Chile (Tironi & Barandiarán, 2014) was accompanied by a transformation in the media industry at a global and local scale. The Reagan-Thatcher era provided an

environment of deregulation and privatization that accompanied the fall of socialist governments, resulting in a higher concentration of media ownership throughout the world (Rodriguez, 2001). In 1970, the United Nations entrusted UNESCO with the examination of the state of global communications; the resulting MacBride report demonstrated that the flow of information and communication from the so-called first world countries toward Latin America was extremely unbalanced, and that only a few agencies controlled the production of information from the first world. Along with this diagnosis, the McBride report also demonstrated that the critical issues the continent faced at the time included economic and financial concentration, as well as the internationalization of the ownership of local media (G. Mastrini & Becerra, 2006).

Barbero (2004) describes the development of communications on the continent as part of the ideological project of neoliberalism:

"In the 80s, one of the few industries developed in Latin America was exactly the communications [...] the number of television stations rose from 205 in 1970 to 1,459 in 1988. Brazil and Mexico have launched their own satellites. Radio and television worldwide via satellite opened links, data networks, fiber optic, satellite dishes, Cable TV was implemented, and regional television channels established [...] The game of transnational actors is not only in the economic field. The game of transnational actors is also in the devaluation of states in their capacity to decide on their own forms of development and priority investment areas."

(Martin-Barbero, 2004, p. 2)

The transnationalization of media ownership was not only a symptom of the economic theories and practices enacted in the continent during the 1970s and 1980s, but also reflects the appropriation of the practices of media production that, in the time of the socialist governments, were taken over by the labor forces participating in these projects. Today, the production of transnational capital exceeds their engagement in extraction, toward companies that extend their operations to other realms, like the management of media. Thus from a space of physical intervention they start to conquer a space of symbolical representation.

In the case of radio development in Chile, the transnational landscape and growing media market economy have led to an absence of civil society participating in media content development. This responds to a new way in which media began to think of itself in terms of the “news” or the “event,” as spectacles configured as a space of competition to win new markets for the consumption of symbolic and material goods, creating news that is unrelated to citizens and often lacking a critical sense (Yañez, 2004).

As a counter-hegemonic reaction, community media emerged as a tool to contest power during the Latin American dictatorships, and during those years communications researchers in Latin America also focused on issues of hegemony (Gramsci, 1971), which became a key element for the study of popular culture about political and emancipatory projects in the continent. Thus popular culture became a crucial element of consideration, because of its relevance in society and the roles that were assigned to people as social change

makers (Alfaro Moreno, 2000).

During this period, as neoliberalism slithered up the Andes to set up camp, resistant populations created spaces to contest hegemonic discourses, using community media as a platform to share information that had been kept hidden from the public. In the context of this Latin American tradition, Cuncumén leaders, particularly the members of the environmental organization OCAS, thought it necessary to develop popular media outlets to counteract the information that's so widely disseminated by Los Pelambres.

As a member of OCAS describes:

"Power erases history, that's what power does... it erases history, the reality, but there are people who keep it alive. People say that everyone has a price, but I'm not going to measure myself on those terms because it will erase history. What am I going to tell to my kids later? That they gave me money to give up and I didn't do anything? ... So that's what we do, to keep history alive."

(Interview, Cuncumén, 2011)

Striving to keep their history alive, at the end of 2008 OCAS and the Corporación Participa, with OXFAM's funding, started to work toward the creation of a community radio station in Cuncumén. It would be managed by OCAS and would serve primarily as a tool to facilitate access to information for the community. The following is a performative scene based on field notes and audio recordings of a special radio show at Radio Comunidad FM of Cuncumén, which illustrate the use given to the community radio. This extraordinary show was developed to

inform the local communities of the valley about the critical dust episodes experienced in the valley and the results of ongoing conversations with Los Pelambres.

Radio Comunidad FM: Radio for Resistance

Location: Cuncumén, at “Radio Comunidad;” Debora, Santiago and Karla are sitting in the local community radio station, ready to broadcast a special show after the dust episodes of July of 2012 to inform the community about the visits to the mine and the meeting with Los Pelambres staff. Debora is in charge of the controls and Santiago is a guest who will share information with the community. Sitting in front of them is Karla, who is conducting research in the zone and who was present at the visit to the mine. However, she is sitting away from the microphone. She’s not a community member; she is developing her doctoral research, and her voice won’t be aired.

Salvador is a community leader recognized by his peers for his fight against the pollution of the environment. Debora is part of the communications committee. Both are members of OCAS.

Music: (Amaral’s song, “Sin ti no soy nada” [“without you I’m nothing”] plays on the background while Debora, Santiago and Karla are setting up the equipment)

“Sin ti no soy nada,

Una gota de lluvia mojando mi cara

Mi mundo es pequeño y mi corazón pedacitos de hielo

Solía pensar que el amor no es real,
Una ilusión que siempre se acaba
Y ahora sin ti no soy nada
Sin ti niña mala,
Sin ti niña triste
Que abraza su almohada
Tirada en la cama,
Mirando la tele y no viendo nada
Amar por amar y romper a llorar
En lo más cierto y profundo del alma”
*(“Without you I am nothing,
a drop of rain wetting my face
my world is my heart and small bits of ice
I used to think that love is not real,
A dream that always ends
And now I am nothing without you
Without you bad girl,
Sad without you girl
That hugs her pillow
in the bed,
Watching TV and not seeing anything*

By breaking to love to love and mourn

In the most true and deep soul”)¹⁴

Debora: *(using an enthusiastic voice)* Hello, good afternoon to everyone who is listening Radio Comunidad! We have had some technical difficulties, but we are trying to solve them. My name is Debora, and we are here at the radio on a Saturday afternoon to talk about the dust in the air over the past few days and also to let you know that Dentists Without Borders are seeing patients from two to four pm. They gave us a list with the names of those who are in need of attention but who haven't shown up to see them, so please if you know any of these people, call them and let them know that Dentists Without Borders are waiting for them. We also have a guest in the radio, Santiago, who will inform us about the latest actions developed by the leaders of the community to inspect the measures that the neighboring company had agreed to put in action regarding the quality of air. But from what we've been seeing, they've failed in the past few days.

Santiago: Good afternoon to the entire community! It is truly important to be here: we were supposed to launch a press release with the company Los Pelambres, about our last visit to the plant on Thursday the twelfth, but the press release, prepared together with the company and written by some professionals working for Los Pelambres, does not reflect our

¹⁴ Amaral's lyrics and translation taken from <http://lyricstranslate.com/es/sin-ti-no-soy-nada-without-you-im-nothing.html>

feelings or what we saw during the visit. Therefore we won't make it public, but we are going to talk about what we saw in the plant!

Debora: Santiago, could you please share a little bit with the audience about the actions that you have undertaken in recent weeks related to the quality of the air and how the community can learn about the actions that the company is implementing?

Santiago: First of all, we need to say that on Saturday of last week, a group of people went up to the plant because of this issue with the dust, which that day was visible at first sight. What we see as leaders is that the measures that the company agreed to implement are not being enforced to lower emissions. Well, due to this the neighbors went up to the mine and on Tuesday of this week we had a meeting in Salamanca with Miguel Sánchez and many other officers of the mine, to tell them right to their faces how urgent these issues are. Besides the dust in the air, we need to have direct access to the mine as well as a vehicle to do our inspections. We can't be held at the Portones area for hours, waiting to enter and begin the inspection. Last Saturday the people who participated in the inspection spent about three hours waiting before they were able to see for themselves if the measures were implemented or not!

Debora: Now we are going to listen to a song and we will be back with more information.

(Debora plays a song in the background and mutes the microphones, and the conversation goes on.)

Debora: I'm just learning how to operate the controls! Someone will be coming by to play music and host some radio shows, but he hasn't gotten here yet. We need to mention this topic again, Santiago, because the radio has been down, so people might not be listening, so we need to say again why you are here today. So you mention that there was a trip to the mine on Saturday, this was about noon, and then a meeting with Los Pelambres in Salamanca and a second visit to the mine on Thursday.

Karla: Maybe you could also mention that while we were waiting to receive the authorization to enter the mine, we were able to see all the dust from the area of Portones, and then I think it was *don* Mario who said that now it was obvious that the company started to use the irrigators to stop the dust... people were really pissed off when we were waiting for such a long time to enter the operation zone.

Debora: *(unmutes microphones and decreases the sound of the music in the background)* Good afternoon, we are here at Radio Comunidad this Saturday with *Santiago*, who is here to inform us about the different actions that the "*mesa del aire*" is implementing about the critical episode that we lived through in Cuncumén and the rest of the high part of the Valley during this week.

Salvador: Yes, well, last Saturday some of the guys called me because of the dust that morning. I wasn't able to go on the visit, but I told them that the people who were able to go, they should get organized and go. So that's what happened, and they sure did it! But they had many problems at

the entrance, it took longer than an hour waiting at the gates at Portones to get access to the facilities and then more time was spent at the *Policlínico*, where people needed to be checked by the doctor to be allowed to go on the inspection. You know that the whole thing is unpleasant, because you want to go to see the issue as soon as possible, and this was an issue that was part of a compromise, but which hasn't been fulfilled by the company ... Well the second visit on Thursday was programmed, and as we were able to observe that day, that day was one of the most critical episodes we've had in the last year, the truth is that that day, I think all neighbors saw how much dust there was... You practically weren't able to see Cuncumén and fortunately we were at the mine too that day... This was our idea, to see if the measurements that they promised were being enforced - that was the purpose of the visit. Well, that day during the visit we were accompanied by Claudio Mendez, who is a person who works in the area of environment and Mauricio Colli, who also works in the area of environment. So, well, the first big thing that happened was to realize that the irrigations were not happening; they practically weren't doing it! What they said is that they were not able to irrigate due to the low temperatures, because the water would freeze on the road, but then you think: if there is a compromise, they should forecast these sort of things...I don't know, maybe they could stop the production, because if we are going to be facing critical situations like this, this is what

they should do, but they are not willing to stop the production for any reason, so then we get all the dust and we can't see our town.

The press release mentioned during the radio show was a document written in the context of the “mesa de trabajo” and the committee that looks after the quality of the air in the zone. After the meeting on Tuesday, the press release was elaborated by a Los Pelambres staff member who participated in the “mesa” as part of the communications committee. However, the community members rejected the press release because they felt that what they saw and what they discussed during that meeting was not reflected. If the press release were to be made public, their names would have supported the company's version of what happened during those days and the critical dust episodes in the valley. I asked them, why did you let Los Pelambres' staff write the document? The answer I received was that the mine's staff were the only participants with access to a computer, and that they were in charge of taking notes during the meeting. After this episode, I was asked two or three times about the process of writing a press release, to help community members to be in control of the information released on their behalf.

The press release that was never shared with the public stated the technical specifications of the measures that had been implemented to control the dust, while at the same time explaining that in certain conditions, the dust cannot be controlled:

“Irrigation of the interior roads in the mine is performed once temperatures exceed 0°C, because under this temperature the roads are frozen. Irrigation

is performed using two water trucks with a capacity of 75 cubic meters, two [trucks] with a capacity of 50 cubic meters, and three with a capacity of 35 cubic meters.”

(Fieldnotes, Cuncumén, 2012)

The unpublished press release also mentioned the meeting held that Tuesday between community members and Los Pelambres’ personnel, including the community’s requirements to control the dust.

As described earlier in the dissertation, the information blockage that the community experiences is a source of anguish for the population. Access to information has an impact on their economy and health, allowing them to trust their decisions regarding daily practices such as the use of river water for their animals, investing in new fruit trees that they can expect to survive the environmental conditions, or even simply stepping outside of their houses knowing the air won’t irritate allergies or respiratory conditions.

In a report prepared by Cristina Fernández and Luciana Sánchez¹⁵ in 2008, as part of the project developed by Participa about the situation in the valley, the authors highlight as part of their findings the relationship between the information gap and the constant condition of fear in which the local communities live:

“Several testimonies revealed make reference to distrust about the information delivered by the authorities, the company, the labs, and

¹⁵ I, as part of the professional staff of Participa who worked in this project, collaborated in the editing of this report together with Andrea Sanhueza. I also participated in the initial fieldwork and helped to collect information regarding the use of media and access to information.

academic institutions that work with them in issues related to the health consequences that may result from the quality of water (ground water stories and creeks), air, soil, and food. The information shared by the company is limited and is conditioned by its interests, thus the fear and vulnerability increase in relation to the effects that pollution can have in the territory. A factor that influences [the situation] is the great capacity of the company to produce and broadcast its own content through mass media.”

(Fernández & Sánchez, 2007, p. 29)

Besides the control of mass media means, another practice implemented that influences access to information is the technical language used by the company when they try to explain their operations to the community. The information gap produced by the use of this language has pushed community members to create their own channels of information, with some members, especially the male leaders, also developing technical knowledge on the extractive operations of the mine. In this scenario, learning through the radio and informal means of communication about what is happening inside the zone of operations has developed into a common practice, especially in Cuncumén, which is the town closest to the plant and tail dam and therefore closest to any potential risk. The following are some examples of how people create new means to access information:

“Well, we have many eyes inside, so they tell us ‘this is what’s going on in this specific place,’ because they see. When the spill happened on December 23rd, they called me at 10:30 in the morning and then my cousin

called me and said, ‘there is a spill in the second turn, in the [area] of transferences, the waters of the process are coming to the river, and they won’t let us go.’ I called my contacts in Pelambres [and told them], ‘we have this issue and we don’t have access, we are going to get in because the law allows us’ [...] Through the creek we have free access, indeed inside my own property I need to allow free access to my neighbor, I can’t stop him from that [...] Pelambres is forced to keep an area open to have access [to the water source] to avoid any accident.”

(Interview, Cuncumén, 2011)

“Here there are people who are in charge of that [to inform], they have to go and pay attention and the mine also gives us a call, because when the pipe exploded with water and brought the dust, the dust from the area of the conveyor belts [...] Those kinds of things are unknown, the [mix of water and dust] did not reach us because they noticed this earlier and closed the gates.”

(Interview, Cuncumén, 2011)

“Well, when a truck overturns, or there is a collision, they mention it on the radio, but when there is a person who dies, [or] an accident in the workplace, it doesn’t appear on the radio [...] The other day a truck overturned and the guy from Illapel¹⁶ made a big deal out of this, but when my neighbor died in the mining company while working for a cleaning company [that offers services to Los Pelambres] and a valve exploded

¹⁶ The interviewee makes reference to the radio in Illapel, the closest city to Cuncumén, where there is a local radio station.

where he was fetching water, [the valve] landed in his face and when they mourned him they tried to cover [his face], I'm not affirming this but I hear that he was decapitated. I read this in the newspaper El Mercurio of Valparaíso, and I asked my brother to send me the newspaper, where they said that [my neighbor] was affected. That doesn't appear on the radio, when people die it's not on the radio."

(Interview, Cuncumén, 2011)

"I always listen to the radio, though the station in Chillepín is not one that informs us much, usually the radio in Illapel does more. For example, the radio in Chillepín just plays music, they don't have a radio show that would inform about what happens in Cuncumén, Batuco, or the valley, and the one who has a radio show on Saturday is Wilson who speaks about Chilean Politics, about the government, the authorities, he doesn't speak about what happens in the community. He fails to say what the mine is doing, or what the farmers are doing, or if the mine is supporting something or if farmers and the mine are working together."

(Interview, Cuncumén, 2011)

As noted in these interviews, the main sources of critical information are the informants who work at the mine and witness firsthand when something goes wrong in the operations. Most of these informants are people who live in the same communities of the Choapa Valley and therefore have a direct interest in the safety of their people, acting promptly when they see risk in the valley. One result of the "mesas de trabajo" and the informal access to information has been

the community's access to the operation's zones. During one of my visits to Cuncumén, there was an incident of a truck spilling oil in the hillside, and that day the company invited community leaders to observe the cleaning operations and measures taken by the company. Community members who saw the remediation felt quite positive about this new approach of the company, which helps to develop access to information better than the sustainability reports does.

Another communicational strategy deployed in the valley is the implementation of a communication committee. This committee was not always part of the strategy of relations between Los Pelambres and local communities, but was, again, the result of pressure from the organized community. The first attempt to manage communications regarding the closing of the tail dam and the sustainable development plan was designed in a manner that privileged an extremely centralized experience, focused on the perspective of the company.

In 2009, when the closing of the tail dam was imminent, I was contacted by a community leader who asked for my opinion about the communicational strategy submitted by Ambiente Seguro S.A., a company with experience in the environmental restoration of mining residues and which was put in charge of working with Los Pelambres and the communities of the Valley in the process of fitoestabilization of the dam. The communications plan proposed by Ambiente Seguro S.A. for the following couple of years mentioned that the community of Cuncumén has had and will have special participation in the fitoestabilization project, since it played an important role in defining this as the best option to close Los Quillayes.

The communicational strategy proposed by Ambiente Seguro S.A. outlined the production of information that would reflect the closing process, the development of relationships with journalists and editors of national media outlets, and direct contact with local community members that would keep them updated about the progress of the fitoestabilization. Even though the proposal highlighted the participation of the community of Cuncumén from the beginning, their role was not reflected in the production of content, and their historical process of resistance was also erased from it. The communities were reflected as receivers of information.

But the creation of a communications committee came to change the centralized logic of the production and distribution of information, developing a communicational strategy that considered participatory methodologies and even included a gendered perspective. After this committee started to function, communities were involved in the design of a communicational outreach that included participatory methodologies. One of the first tasks of the communications committee was to develop a communications study based upon the experiences of the local communities and the ways they accessed information that was critical for their survival (Comité Comunicaciones Cierre Tranque Los Quillayes, 2010). The person in charge of the communications committee was the same sociologist who previously worked in the project run by Participa and Oxfam, and who is also the author of the report that diagnosed some communicational issues that impact the lives of the local communities. The

communications committee was also composed of a social worker, an environmental engineer, and communications staff of Los Pelambres.

Despite issues such as the development of a press release that didn't reflect the opinions of the entire communications committee, the existence of this committee helps to open new channels of access to information, making the mining process more transparent for the people who live in the valley. However, there is still a gap between the local communities' perception of the mining process and the perception that is spread through national media about the operations in the zone. This perception is compromised by the participation of the Luksic Holding in media ownership and the concentration of media ownership in Chile, as we will discuss in the following section of this chapter.

Mass media structure and Representation of Environmental Conflicts

In Chile, El Mercurio and La Tercera hold a duopoly over most of the media content produced in the country (G. N. Mastrini & Becerra, 2011, p. 56). Until 2015, there were six newspapers that were distributed in each region across the country. These newspapers were owned by the Edwards holding company, whose most iconic newspaper is El Mercurio, and the Saieh holding company, whose most iconic newspaper is La Tercera. According to Jiménez & Munoz (2008), out of 132 different media outlets in Chile (including radio, television, and printed and online newspapers), a total of 41 outlets were owned by the Edwards holding and 21 by the Saieh holding.

Chile's consumption of media is above the average on the region (G. Mastrini & Becerra, 2006, p. 152), the structure of media in Chile is also

characterized by the hegemony of commercial radio over community radio; the centralization of media production in the capital city, Santiago; the precarious existence of local TV stations that are under fire due to the cost of production compared to big networks; and a tendency for transnational media networks to own local radio stations, which is making the local content from those networks disappear (Del Valle Rojas, 2006, pp. 64–65). Today, the concentration of the ownership of traditional means of mass communication is a problem that has been justified by the cost and complexity of the devices used as means of conveyance, storage, and control of messages.

Part of the problem of the concentration of media is the hegemony created in the representation of people. Latin American communication scholars have emphasized the exaggeration of stereotypes that flood media content, especially when it comes to people living in relative or extreme poverty. The media portray them as a danger to be feared by society, marginalizing and even denying their existence. The interlinkage of stereotypes with ethnic, gender, and age dimensions has resulted in the predominant representation of certain segments of the population and justified the repression of those not belonging to it. This has further resulted in the dilution of social complexity and divided reality into pairs of binary opposition of, for example, good and evil, victims and executioners, or normal and deviant (Reguillo, 1998). In the case of Los Pelambres, the groups who have been portrayed as dissidents to the discourse of the company have been caricaturized as “environmental-talibans” or the “untouchable princesses,” which is a clear example of the gendered dimensions that also populate the

representations.

Despite the fact that the radio produces the least revenue of all media formats in the continent (G. Mastrini & Becerra, 2006, p. 170), the strategy of the Luksic holding has incorporated the acquisition of radio stations, including the Horizonte, Oasis, Play and Sonar stations. The Luksic holding also incorporated one of the most traditional national TV channels, Canal 13 (Gaete, 2012), which broadcasts nation-wide. In this scenario, the coverage of the company's spills or wrongdoings is mediated by the concentration of media ownership in the country and the agendas that they serve.

Journalists' habits and rituals influence the information that appears in the media. If, for example, there is a leak into the local river where Los Pelambres is operating, the official source for the media will most likely not be a person who has lived and used the river's water for years, but an expert—usually a foreigner to this place—who will have the responsibility of explaining the scenario. A myth persists in information systems about the construction of truth, which can be attained through the validation of the words emanating from political authorities representing power. There is the belief that transmitting information is equal to generating public information, which aligns with the idea of a hegemonic information system, since, in the end, public opinion is solely measured by the “people meter” that measures the opinions only of those it represents (Del Valle Rojas, 2006, pp. 121–123).

In the national media landscape, there is no space to raise dissident voices that contradict the editorial agendas of the media outlets that mostly

ascribe to a neoliberal economic spectrum and conservative political position. As Monckeberg (2011) describes, the media in Chile fails to offer a space for engaged citizen discussion, avoiding any subject that may harm the connections between the financial and media sectors. The performance of journalists is also permeated by these connections; Monckeberg (2011) insists that journalists recognize that their work should not displease the owners of media, nor their friends, business partners and advertisers. As a result, journalists keep silent or practice self-censorship when they recognize that certain topics may be inconvenient to any of the parties involved in the connections between the financial and media sectors.

In the Chilean press media landscape dominated by *El Mercurio* and *La Tercera*, there was until 2014 a voice that was “independent” from the major media holdings. *La Nación*, a newspaper founded in 1917 by Eliodoro Yañez and a group of liberal senators, became the semi-official media of the government in 1927 following its purchase by the government of Carlos Ibañez (Portales, 1981, p. 77). However, *La Nación* was privatized in 2014 as part of the final measures undertaken by the President Sebastián Piñera, whom before the end of his term ordered the sale of the newspaper and its historical archive of 97 years; the transaction was completed during the government of Michelle Bachelet (Torres, 2014).

In the following critical media analysis, I discuss the media coverage of the leak of toxic residues in the Choapa river in 2007. This environmental disaster was not covered by the major newspapers, but it became national news when La

Nación covered some government official activities in the zone.

In August of 2007, after the leak of 27 million gallons of toxic residues into the Choapa river, coverage of the leak and the community's mobilization was limited to non-conventional media outlets, such as environmental NGO's websites (i.e. Chile Sustentable, Chile Ecológico) and independent blogs, which echoed the information shared by the mobilized community. The incident only attained coverage by traditional outlets when official governmental agencies began to assess accountability for the leak, and then once more when the ensuing sanctions were made public. Even the reconstruction of the incidents that produced the sanctions was based on the official press releases of the mine, not those prepared by the community when they made the situation public.

In October of 2007, the company was again in the media, first for the visit of the minister of the environment to the zone and then for another dam leak into the river. An article in La Nación titled "*Las Salvadas de la Ministra Uriarte*" ("*The Rescues of Minister Uriarte*") focuses on her 45 day journey throughout the country and the world. In the text there is an emphasis on the misfortunes Minister Uriarte faced during her trip, like travelling in a plane for military transportation. The article mentions that "the personnel on board offered her mineral water, coke, and biscuits." After this anecdote, the article mentions the minister's visit to Cuncumén and Caimanes, where people were waiting for her with signs that read "Minister, please help us." The next thing the article mentions is the escape plan designed by the police in case the meeting would heat up, and it continues by noting that "people were very critical of the local authorities, but

the minister was able to calm them down and promised a series of actions to solve future pollution incidents caused by Los Pelambres Mine” (Nación, 2007b).

The environmental minister's visit to the zone was mentioned several times during my fieldwork in 2011, with community members framing the visit as a product of their mobilization and their political connections with a congressional representative from the region. The visit, according to community members, was not a result of the government's political will, but of the community's organization.

The second Los Pelambres news story to come about in October 2007 was also published in La Nación, titled “*Autoridades de Coquimbo en Alerta Tras Rebalse de Minera*” (“*Coquimbo Authorities on Alert after Mine Spill*”). The title does not mention the name of Los Pelambres, and it reflects the discomfort of the local authorities following the mine's spill. The sources cited by the news story are local authorities and an environmental lawyer. All of them criticize the company, however the “*Intendente*” (a sort of provincial governor) thanks the company while encouraging it to respect the law:

“We value the actions of the mine in the region, we know it is interested in the region and the country, but we know that this company, as any other, needs to operate within the environmental law. We are all pushing for a mining region, but at the same time for agriculture in the region. At the same time it has to do with attracting new productive areas to develop in the area.”

(Nación, 2007a)

Two years later, the community was mentioned again in a national media outlet.

The title of the La Tercera article, “*Despejan rutas de acceso a minera Los Pelambres tras cinco días de toma*” (“*Path to Los Pelambres Mine Cleared After Five Days of Roadblocking*”), emphasizes the interruption Los Pelambres’s operators faced in accessing their mines. In the subheading, the newspaper mentions the number of people arrested, how many days the road had been blocked, and then, using a passive tense, the reason for the roadblock: “...after the Choapa river was contaminated by a spill of copper concentrate,” erasing the active action of the company in polluting the river. The first paragraph of the article reiterates the number of people arrested (7) by the special police forces, the name of the roads that were cleared, and the purpose of these roads, which according to the newspaper is to lead to the operation zone of Los Pelambres mine. This interpretation does not mention that the communities of that area use and have used those roads for their own businesses prior to the company’s settlement. Only in the second paragraph does the article mention the reason the community decided to block the roads: the spilling of Los Pelambres’ copper concentrate into the Choapa River following a break in the pipe that transports it to Los Vilos (Portilla, 2009).

The leak was not covered by the mass media until there was an official source that confirmed the incident. This selective use of sources constructs a mediated discourse, which ostracizes dissident interpretations of the environment. Even though the roadblock was not made public in the national mass media, the community was still able to advance their experience with the spill.

Conclusions

The development of neoliberalism facilitated the installation of the mining industry in Chile and transformed the media structure. Forty years later, increasing disparities in coverage and the means to produce media in Chile continue to affect the exercise of the right of access to information, which in the context of environmental conflicts has dramatic consequences in the exercise of other rights, such as the right to live in a clean environment. On March 16th of 2015, president of the Chilean Association of Journalists Javiera Olivera spoke in front of the Interamerican Commission of Human Rights in Washington, DC, addressing the alarming situation of the concentration of media in Chile and the resulting inequalities in coverage and access. In an interview with Radio Universidad de Chile, Olivera mentioned:

“We have seen how certain media has been silent about [people’s] mobilization in the town of Caimanes against Los Pelambres mine, [there were] some action of the public force against community radios. Communication is a right, and that is one of the vindications of the Association of Journalist during this month.”¹⁷

(Diario Uchile, 2015)

Access to information and media representation are both critical issues in

¹⁷ As previously mentioned in the dissertation, the people of the Pupío Valley (where Los Caimanes is located) confronted Los Pelambres after the construction of the tail dam El Mauro. A majority of the community has organized and followed a judicial path that contrasts with the actions enforced in the Chopa Valley. As of the beginning of 2015, the town of Caimanes has actively developed demonstrations against Los Pelambres to force the company to act according to the law and obey the court ruling forcing it to demolish the dam.

the ongoing conflict between Los Pelambres and the Choapa Valley communities. On one hand, there is the need for the communities to have access to information on which they can rely, but which until now has not been supplied. In these scenarios, community members develop communicational strategies to survive and resist against the risks that mining operations pose in their daily life. The emergence of Radio Comunidad is a clear example of the environmental organization OCAS's attempts to provide alternative sources of information, so the local communities of the valley can be informed in the event of an ecological disaster and maintain a space to publicly discuss their daily struggles living next to a mega mining project. We have learned through this dissertation how the creation of archives that feed public memory is crucial for the recontextualization of the mining industry. Thus, in this case, the use of community radio creates a public archive that offers a counter narrative not offered by any other public mediated space, such as the other local radio stations or national newspapers that have thus far framed social movements as disturbers. These latter narratives have been reinforced by journalists' routines that affect the coverage of environmental causes, especially the practices of source selection which mandate them to quote official sources, leaving other sorts of interpretations absent (DeLuca, 1999, p. 89).

What the authorities declare becomes a totalitarian representation of the place and its struggles, while protesters' critiques are forgotten. Relevant to this conversation is the concept of objectivity enforced by journalistic standards, which prioritizes "official" and "exact" sources over the local community members

who have developed their own knowledge and skills to explain the companies' operations and the local environment.

Despite the fact that alternative representations are erased from the mainstream media, the methods developed by the local communities to infiltrate the company's information blockage bring power to their claims, allowing them to confront the homogenizing archive of the Andes and the mine. This is a clear example of the way a popular technology can be used to resist the technologies of extraction that sometimes seem to be a structural part of the government, law, and nature. This should also help us understand how the process of mediation does not always create the meaning that is intended, since subjects have their specific history, knowledge and practice that generates its own ways.

In the next chapter I will discuss the relevance of making the positionality of the researcher visible, as well as the use of performance, as a way to identify paths in which researchers can engage in actions toward achieving social justice in the territory where research is developed.

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CHAPTER 5

POSITIONALITY AND FEMINIST PRACTICES IN THE ANDES

“Interviewer and interviewee are in partnership and dialogue as they construct memory, meaning and experience together” (Madison, 2012, p. 28).

Introduction

This research project has included different methodologies in order to embrace the complexity and richness of the technologies developed around the mining industry. As part of this work, I have experienced the territory from different positionalities, which I consider important to highlight as part of the process of knowledge creation that this whole project represents. Through this chapter, I will explore issues related to my positionality and the methodology used during my fieldwork. In order to do this, I will explore the experiences that coalesced into the performance “The Nation and the Domestic,” which I wrote in 2011 following my initial fieldwork in the communities of Valle Alto. This performance¹⁸ is the result of my reflection as a feminist scholar in a territory where, in the context of a conflict, women are underrepresented within the public space and dialogue. I initially composed this performance for myself out of rage and helplessness, but I later shared it with the people who participated in interviews during the first year of my fieldwork. In the “Nation and the Domestic,”

¹⁸ This piece is informed by a large feminist literature that includes authors such as Grewal, 2005; Haraway, 1991; Jaquetter & Summerfield, 2006; Kandiyoti, 1994; Lahiri-Dutt, 2011; Tuhiwai Smith, 2012; Zerilli, 2005. However, for the purpose of the performance, the voices of the women who participated in the research authorize this piece and have thus been prioritized in the text; this is also a way to capture the flow of the conversation and acknowledge the performative aspect of this chapter.

I put all women in the same room to discuss their stories and the ways the mining industry affects their lives, including myself as a researcher. In this chapter, I will unfold from the “I” perspective what it has meant for me to be called a “*niña*” (a little girl) every time I go back to the Andes. I first met these communities as an NGO worker, then as an activist, and now as a researcher. After several years of work, it is clear that without a critical feminist perspective to help reflect on the conflict, it would be very difficult to work toward sustainable development in the valley. Historically, women have been marginalized in discussions with mine representatives and within the community organizations that deal with the issue. This fact has impacted local women’s knowledge about the conflict and the process of mining production, and has silenced their perspectives about the construction of solutions. Through the performance “The Nation and the Domestic,” vignettes, and auto-ethnographic interpretation, I will analyze my research experience in three different phases: prior experience, performance and reaction analysis, and my attempts to develop a space for dialogue in a context of conflict and resistance. Additionally, I will look at the direct implication that this sort of experience has upon critical ethnographic work (Madison, 2012).

I Need to Speak Up

“You can’t learn how to tell someone else’s story until you first learn how to tell your own” (Saldaña, 2011, p. 17).

Chile is a developing country that has experienced a boom in the expansion of mining industry in recent years, but linking the development of the

economy to the development of a neo-extractivist society damages the quality of life of the residents of mining zones, who are forced to subsidize the material development that mining extraction produces in its areas of exploitation. For the past six years, I have been working from different positionalities in Cuncumén. Since the beginning, my presence in this space has had its issues. When I visited Valle Alto for the first time, I worked for Participa¹⁹. However, regardless of the fact that I entered that space as a professional, I was always called “*niña*” (a girl) by community members - especially the men - denoting that I’m not seen as a grown woman, but rather as a young child who needs to be taught (by the men). This was exemplified even in formal meetings, where the men referred to me as “*niña*,” showing that my gender overshadowed my professional position in those meetings. This situation is not unique to me; the young women of this community are frequently spoken down to, even if they are already mothers and/or independent women. There is a constant struggle to demonstrate that you (as a woman) are capable of doing what a full-grown person is capable of. In addition to being a woman, I also openly identify as an indigenous person and a feminist, and this “package” brought about other issues in how I was perceived by the community. One of the events that marked my work with this community

¹⁹ After years of conflict and external intervention in the territory, the people have learned to select or reject the intervention of non-profits in their territory. At the time I started to do fieldwork, the leaders of the community had stopped their interaction with non-profit organizations that they didn’t believe could offer substantial help to solve their issues. This in part corresponds to the strategy implemented after the failure of the government to intervene in the zone. Any internal situation is handled by community leaders and Los Pelambres’ representatives. My presence in the zone was possible due to my history in the valley; after acting as a non-profit worker, I became a volunteer, helping in the construction of the community radio. My compromise with the territory, beyond my paid work, allowed me to stay and be welcomed by the community. The generosity of several community members allowed me to learn beyond any formal professional experience I could have ever had in a zone of conflict like this.

was the day when I had to yell at twelve men in a room in order to be heard.²⁰

Years later, I have seen the same scene with other women who have had to validate their presence and voice within the group.

An evening in the Andes...

I: I'm exhausted, after days of driving through different communities, from the coast to the mountain, we finally arrived in Cuncumén. It's getting dark. We will hold this meeting and after that we are heading back to Illapel, a nearby town where our hotel is located. My friend and colleague, also a woman, is with me to talk with the leaders of the community to discuss how to proceed next year. We have decided to run the project under the structure of participative budgets; therefore we are here to ask people how to spend the money that we have for our project *Incide! Más Derechos, Más Voz* (Advocate! More Rights, More Voice).²¹ At the same time, we have the task of organizing the production of a Human Rights Report that we are creating as a documentary of different regions of Chile.

Man 1: (*At the entrance of Cuncumén*) People are waiting for you at the *Junta de Vecinos* (neighborhood council). They are having a meeting right now, but they know that you were coming so they are expecting you.

I: OK, so let's go to the meeting.

At the Junta de Vecinos, 12 men are sitting in a semi-circle, with two

²⁰ This situation is not fully new to me. Since I started to work in a professional environment, I have had to speak louder than my older colleagues at the table. I have had the chance to work several times in teams that included male senior professionals, and symbolically the situation is quite similar to what I have experienced in Valle Alto.

²¹ This was a project funded by Oxfam-Chile and developed by Participa.

chairs placed facing the crowd.

Man 2: Please take a seat (*indicating the two empty chairs*)

Man 1: (*looking at my colleague and me*) They are the people we have been working with during the last couple of months and now they are here to talk about a documentary and some other things...

She: Well, first of all we would like to introduce ourselves to the people we haven't met in the past and to...

Man 3: (*standing up from his chair*) We would like to know what are you doing here, we have met many like you in the past, plenty of organizations that mentioned that they wanted to help us, but here we are all the same, what we need is a radio station. Are you going to give us a radio? If you want to help, that's what we want, if not then we don't have much to talk about. (*The crowd of men are nodding their heads*).

I: Well, as we were saying, we would like to...

Man 3: (*standing up and kicking the chair placed next to him*) It is clear, what we need is a radio. What you need to understand is that we are tired of this kind of conversation, we need solutions.

I: (*I feel how my heart rate is rising, they all seem pretty angry at us*) Well, that's something we need to discuss (*... raising my voice as I speak*). We are here for the purpose of developing a documentary, which answers some of the needs that you shared with us during the past year.

She: And we are also here to work on the preparation of a participatory budget for the project (*raising her voice and using her hands to emphasize*

what she says). If you want to include the construction of a radio in the budget, that's something we can discuss, but first we would like to know how willing you are to continue working with us. If we are here to talk about a documentary, it is because in the last couple of months you also mentioned that you wanted to be able to share your situation with a wider audience.

I: *(slowing my voice down a little bit)* The documentary will serve as a Human Rights report, which could be used by you to draw attention to the topics that during the last year of work you have indicated as your first priority, such as the quality of the water, the toxic leaking into the river, and the quality of the air. We are offering this tool to other communities that have been working with us - actually the idea of making a documentary came from a community leader in Talca. *(After a while, I am not yelling anymore and we are talking again.)*

Man 2: What we see is that we need this community radio because all the local media is receiving money from the company, so nothing related to the wrongdoing of the company appears in the media and we need to be present. If you could help us with this project, it would be of great help. *(We spend time discussing media and representation and the participatory methodology used to create the documentary. After about 40 minutes, we say good-bye; we smoke a cigarette and discuss in the truck what this was all about. I still feel my heart beating.)*

In this community, the presence of women in the public space is highly restricted. Only a few women have positions of leadership, especially positions that deal with issues where the conflict with the mine is foregrounded. The mechanisms by which women are segregated from the public space are not recognized by men, and if you ask them—I have asked them on several occasions - why women don't participate, the men respond that it is because women don't want to participate, or women are not interested in these sort of issues, or simply that they don't know why. However, from a critical feminist perspective, I intentionally work with women, who have demonstrated during individual interviews that they have sophisticated critiques of the community's administration of the conflict. They have clear desires and opinions regarding the fate of the valley, the political articulation of the conflict, and their perceptions about their role in this space. They are also critical of community leadership. By including women who are not very visible within the conflict administration in my study, I'm exploring how their interpretation of the effects of the presence of the mine brings variations to the discourse that are not being addressed in the community leaders' main discussion, such as the employability of women or their particular fears about the presence of the tail dam.

I Need to Speak about My Subjectivities

I returned to the community in 2012 with a pile of translated papers that I wrote during my PhD coursework at the University of Illinois. I was especially afraid of sharing my “personal thoughts” in a performance. This was not the first time I would talk with the leaders of the community about why it is important to

incorporate multiple opinions in the discussion of the conflict; however, this was the first time that I openly conceptualized my feminism and presented my subjectivities based on my academic work. It was at this time that I had to share my representation of the “other” and all the “far-reaching consequences” (Conquerwood: 1989) that my representations could have. I had to put myself under scrutiny to be able to have a critical and liberating dialogue (Freire, 2005) and to open myself up to being vulnerable, because I now knew that the subjections that women have to overcome also affect me and my work. I saw this in the way in which I relate with the leaders and how I always needed be alert to demonstrate my strengths. I understood that the success of my ethnographic fieldwork does not necessarily rely on the set of predesigned questions or a detailed plan, but that “what is required is genuine curiosity, sincere interest, and the courage to be ‘vulnerable’ to another at the risk of being ‘the register of someone else’s power’” (Madison, 2012, p. 43). I understood that those were all actions that had to be undertaken, but to go back into the field with the analysis of my observations and interviews? That took more courage than I anticipated.

One of the outcomes I was expecting from sharing myself, and not only my research, with the people that I work with in Valle Alto was the chance to have a more sincere conversation with the women and men of this community. Thus, talking about the macho-culture oriented dynamics that exist in Valle Alto was a discussion catalyzer that could jeopardize my permanence in the community. According to Krumer-Nevo (2012), what usually happens is that “in most genres of qualitative research, interpretation is the sole responsibility of the researcher,

and in general, interpretation is not guided by the aim of challenging Othering” (p. 195). In this case, the performance became a challenge to the *machismo* that is naturalized in the daily lives of the community. To share what I thought, not only from a pure and “objective” perspective (about the others) but including my personal experiences, helped me to go beyond interpretation and “othering” and to create conversations based on the interviews and observations I had recorded in the community.

Conquergood (2002) says that when a performance opens the space that is inhabited between analysis and action, there is a transformative experience for the actors, but the researcher has to learn to be comfortable with the uncertainty and vulnerability, or at least to want to explore this space. Hence, the researcher assumes that the “other” will intervene on many different levels of the analysis of the situation registered through ethnographic work. The dialogical performance allows the researcher to change the routine of speaking about the “object of analysis” to assume a conversation in which the researcher speaks to and with the people involved, assuming that the dialogical self is also inserted within contexts of race, gender, and class (Conquergood, 2012). In this theoretical and methodological context, it was my hope to establish a discussion of the chauvinist cultural practices that I rejected in this space, because I have experienced them and I share with other women such bonds that are a product of our experiences that are mediated by our gender.

My First Attempt

Before returning to the US from my first summer of fieldwork, some

community leaders asked me to share with them the initial outcomes of my research. They also asked me to give a workshop on strategic communication, since that was an issue they wanted to address. That was the first time I had a chance to speak up in public about the segregation of women that I saw affecting the work of the local communities. After years of working with this community, I had been invited to use my research as a magnifying lens, which according to Madison (2008) “points to those moments or small details that we might take for granted as ‘ordinary talk’ or prosaic and opens us to layers of complexity and associations that we may otherwise not come to realize” (p. 394). I used the information I collected from the interviews I conducted with women to zoom in on ordinary topics that are central to the resistance of the community.

Workshop, Cuncumén, 2011:

Tonight is my last night in Cuncumén. I’ve been preparing this workshop since the day they asked me to do it. We have walked a long way since the first time we met. I’m still a “*niña*,” no doubt about that, but at least I’m a “*niña*” who owns a voice in the public. My topics for today’s workshop include the analysis of the representation of the local leaders of the community and the participation - or lack of participation - of a big part of the community in the discussions held with the company representatives; I’ll raise the topic of the lack of women’s representation during the discussion. Also, another very important point that I’ve learned from the interviews is the disparity in opinions that different people have about the purposes of the same organization, the Cooperativa de Desarrollo

Sustentable (Cooperative for Sustainable Development-CDS).²² I think we need to have a discussion about the discourse that they are transmitting to the rest of the community.

It is Friday evening; I don't know how many people will show up to our workshop. After some minutes, people start to enter the room and we begin the workshop about half an hour late, but more than 20 of us have arrived. All participants are men, except for three women in the audience, all who work at the CDS and are in their professional roles at the workshop. The conversation flows and topics such as the analysis of the public message that the cooperative is sharing with the rest of the community and the distribution of information are discussed in detail. It's getting late, but we have only been able to get through half of the workshop. I just let it flow in its own rhythm; I see people who need to speak, and this is a good exercise. It's getting dark, and we have no lights. It's begun to snow heavily and the weight of the snow has broken a branch of a tree, which hit the electric light pole and cut the wires that feed the place where we are meeting. We continue regardless of that. We can barely read what's on the walls. Someone lends me a flashlight, someone else shows up with some candles. We keep discussing, this is necessary...

²² The Cooperativa de Desarrollo Sustentable -CDS- (Cooperative of Sustainable Development) is a cooperative owned by community members of Valle Alto. CDS participates in the operations of the mine as a partner entity, especially the management of the phytostabilization process related to the closing of the tail dam.

The cooperative built a vivarium that grows plants to stop the pollution of the subterranean water and the air that the tail dam affects. This was the first step toward the closing of the tail dams. CDS is in charge of the administration on the side of the community of the different "mesas de trabajo" in which the company and part of the organized community discuss the future of the valley.

It is about 10 pm. We have been here discussing for nearly three hours and we still haven't been able to finish, but the discussions generated are good in and of themselves. In regards to my point about women's participation, it was one of the topics that received the least amount of discussion. I tell them that women are relevant for the construction of solutions to the problems the community faces, that they are half of the population and that they obviously cannot claim to have organizations that represent the community if men are the only ones involved in them. Some of them seem to agree, some of them look indifferent.

At the end of the workshop, I feel we have accomplished a lot, but the point about women's participation is something that was almost not present in the discussion tonight. We spoke a lot about democracy and rights, but not about gender blind dynamics.

My Second Attempt: The Nation and the Domestic

After I left Cuncumén, I wrote "The Nation and the Domestic." The next year, when I returned to Cuncumén, I started to share the translation of the different articles I had written since my last visit. The first comments I received were about the performance, which is basically the reproduction of conversations that I had with different women in Cuncumén and its surrounding area. The dialogues were performed one by one, since in my experience it is less frequent to find women participating in public discussions regarding the conflict with the company or directly speaking about the conflict in social gatherings. Therefore, to

get access to their opinions, it is necessary to address them in other types of spaces, such as their homes.

In this case the dialogues do not only focus on the impacts on the environment, but also on their daily discourses and the reconstruction of their memories of the valley. The following is a selection of some of the scenes that represent the performance:

Scene 1²³

Woman 1: I was born in 1934. I started working at an early age. I didn't know how it felt to be a child...

Woman 2: My dad must have arrived in Cuncumén in 1955, because I was born in the 1960s. He transferred to work in the 'hacienda.'²⁴ We lived in the 'hacienda' when the *patrones* lived there... in those houses. My mom says that they let us use a room. We lived there for a while until we obtained our home.

Woman 3: We are very native. I was born in my house with the help of one or two ladies, midwives who were dedicated to helping women give birth. At that time, it was much more private, not like now, which is much more public.

Woman 1: I did not know about toys or birthdays. I've always worked, since I was conscious, since I opened my eyes. I was the man and the

²³ Scene 1 is about the memories the women I interviewed had about this territory when they were children.

²⁴ The hacienda was a system of land administration in which there was an administrator in charge of the productivity of the land and the 'inquilinos' who worked there. An 'inquilino' usually had to work for the 'hacienda.' He received a very low salary, a daily meal, and a piece of land that he could work for himself. The system of 'haciendas' ended in Chile during the Agrarian Reform era, which was a land redistribution program that started in 1962 under the orders of President Jorge Alessandri. The Choapa Valley, where the communities of Valle Alto and the Los Pelambres mine are located, was the first place where Agrarian Reform began in Chile (Dirección de Bibliotecas, Archivos y Museos, 2004).

woman in my house. I spent two years in the mountains of Quelén. My dad asked me to take care of the goats in the mountain. I know all of that area. We lived there until my dad came to work at the 'hacienda' and later we moved to Cuncumén.

Woman 2: My dad was from another village and married my mother, and came to Cuncumén. He came there not as a 'trabajador' but rather as an 'empleado' working on the 'hacienda.'

Woman 4: And what was the difference?

Woman 2: The 'trabajadores' worked in the field; the 'empleados' did the administrative work. It's like how now in the companies, there are differences between those who do different kind of jobs.

Woman 3: My father was a bookkeeper in the 'hacienda.' He was very smart, much more so in comparison with other old people, because although he had only three or four years of schooling and didn't even have shoes to go to school, he learned many things... like reading.

Woman 2: My father did not have much education but he knew a lot about numbers and had beautiful handwriting. During the time of the land reform he became a farmer. It was difficult for him, but he just got used to it and worked the land to support the family; hence we grew up and continued our higher education.

Women 1: I was married before the age of 17. When I was 35 I was widowed and had to raise six children. Thank God I can still work. The kids are gone and I am alone, but I'm working. I make bread every day. I sell it

so I have money to pay my bills. I receive a pension, which is 150 thousand pesos, what can a person do with that amount of money? So I work so I don't have to ask for money from my children.

Woman 4: How is the territory today?

Woman 2: Today, most women are housewives. There are even professional women who stay at home, because here there is no field work for them, there is no work.

Woman 4: But in the mine?

Woman 2: They are mothers, they have partners... with the system of 7x7,²⁵ which makes it impossible for women to work in the mine. Who's going to take care of the children if the women have to stay in the mine for seven days? That's impossible. Here there are very valuable women... and I feel sorry for them, because they are very skilled but their talent is wasted.

Woman 5: Now that there is so much employment because of the mining, it is difficult to find people to work in agriculture. Imagine that there are crews of women who work with the grapes. That was a man's job, but now it's done by women. For me, that's a change that the mine has produced.

Scene 2:

Male 1: Chileans need to engage in a new sort of relationship with mining. Mining is not only one of the key developers of the economy, but it is also part of Chile's DNA. We need to overcome the idea that we are a country that engages with mining to become a mining country.

²⁵ The labor system of 7X7 means that per seven days of work, the workers receive 7 free days.

Woman 4: We think of the mine as a way to improve the economy for the families who live in the valley, and the mine actually helps a lot of the families. Now women drive their cars to pick up their kids from school. But the difference between women and men remains the same as many years ago. I wonder what the role of the company is in this ... Why should we think about a mining country, if when we talk about a country we think only of men? How are women incorporated into this new idea?

Women 6: Actually, there is nothing like *the domestic or the public*. Everything is transected by the transnational. Families and their homes are part of the same structure; the boundary of the domestic is not established by four walls and a roof, but by a patriarchal system.

Therefore, the system that rules a country is a patriarchal system as well.

Woman 2: Look, I do not really like the mine, because of the environmental issue, but along the same lines I notice that the standard of living of Cuncumén has changed a lot because of the presence of the mine. You should not attack the mine too much, for better or for worse you realize you cannot undo it. Then, you feel regret, because, for example, before the snow was white, and now it is black and dirty.

Woman 4: Do you notice the difference?

Woman 2: Of course I do. But you also notice the difference on the other side too... people live really well because of the mine. So, I think that here the man who does not work is like that because does not want to work.

Women 7: It is interesting how you mentioned that men have plenty of

options... which makes me think about how the access to resources is not given equally to women and men and also makes me think of how the lack of access to these resources is legitimized even by the nation-state.

Woman 4: But how is the nation involved in what happens inside a woman's home?

Woman 8: Well... the act of developing a project of a mining nation, assuming that this is the convergence of everyone's interests, when it actually represents the voices of those who are able to sit in those meetings, who are mostly men, makes me think that this nation-state project is a project that represents men's interests.

Woman 4: I guess, the absence of the state in this territory, which has been exploited by the company, impacts not only the land, but also impacts the ability of the country to call itself a "developing country," and also impacts in the absence of women. But still these women are better off than before; their husbands have jobs, now they have their own cars...

Woman 9: Yes, but it's not a project that includes them. It's a project that is shaped by men for the sake of men. Just look at the resistance that the company has experienced from the community. How many women are involved in the discussions? ... One, two, maybe ten? And look at how many men are involved in the discussion. Don't you think that the lack of women in the political discussion is also part of a project?

Woman 4: Well, most of the women I met were not able to describe how the mine functions or how the tail dam functions, but the men were able to

do so. They may have the same level of education, but the act of being involved in the resistance made them need to teach themselves about the risks that are next to their homes... I heard the story of an old woman who wasn't able to sleep at night until the day she died, because she always thought that the tail dam would collapse and kill her during her sleep. And that was so wrong, because the content of the tail dam is not liquid anymore...

Women 9: How did you learn about her?

Woman 4: By talking with some women...

Woman 9: How did you learn about the consistency of the tail dam?

Woman 4: By talking with some men...

Woman 6: Do you see that? There is no division between the domestic and the public... If you cannot sleep because you are worried about the presence of a tail dam that may kill you, a tail dam that was authorized by the government...Where is the limit? It's all an illusion... this erases the public-private language.

What Was in Discussion?

In this context of dispute, there is a mega mining project that makes the economy of the region grow, but which at the same time impacts the life of the people who live next to the zone of extraction. This is not new for a country that has historically developed the mining industry. However, part of this community has opted to work together with the company to find a solution to the conflict, mainly in regards to the quality of the environment. In this discussion, women's

perspectives are not considered as crucial as men's perspectives in the community. The company and community members, especially those community members who are the leaders in the management of the conflict, steadily obviate the situation of women. Instead, their discussion focuses on the impact that mining production produces on natural resources, such as land and water and their uses for farming.

In 2012, when I started to receive comments regarding the work that I put into circulation amongst community members who participated in the research, I was very surprised, because the first comments received were about the stories of the women of the area. This reaction exceeded what I could have anticipated, since the focus of this whole conflict has always been to discuss the material environment. Through the voices of some men, I learned that the story of the woman who couldn't sleep at night out of fear of dying was not an isolated story, because other women of around the same age were experiencing the same fear. One of the community leaders asked me if I was speaking about his mother in that piece; it wasn't her story, but I learned through this question that the woman I spoke of was not the only one who feared the mine and its consequences.

Before I left Cuncumén, I held a meeting with four people who wanted to learn more about what I'm doing with the research. I used the time to answer in detail what I'm thinking and saying through my work. When we got around to discussing the performance, this is what happened:

I: So, let's talk about the performance, what do you think about it?

Him: I'm very surprised by the situation... it made me wonder if we are

chauvinists too? Because I don't consider myself that way.

I: *(I feel I could cry after hearing this question. I have been waiting to hear a man wonder about these issues for a long time)* Yes, well, I think you are... If you look at how many women are participating in your organizations, you at least have to wonder why there are so few acting as members or in roles of leadership. Actually, even for me it has been difficult, after years of knowing you, I'm finally able to tell you that when I was 24 years old and I met you, there was a time when even I was scared of what could happen. Once, someone kicked a chair while yelling at me and my friend. I felt scared; I thought you would punch us. I know that wouldn't happen, but still...

Him: I know, I remember... but he always reacts that way, you need to understand...

I: Yeah, but it's not only that. For instance the other day, during a meeting, the woman who was presenting her communication plan had to start yelling instead of talking so the men in the room would listen to what she had to say.

Now that we know each other better, I understand your frustration at that time when we discussed the radio. I also understand that this reaction was not against us, that it represented a reaction against the same sort of violence you had been victims of before.

I also think that in your public meetings women have to be very aggressive and raise their voice all the time if they want to be heard, which is not the

same requirement for men. I recognize that you invite everyone to participate, but have you ever wondered if women were not able to attend the community meetings that happen at night because they are taking care of their children at the same time?

Conversations like these were repeated during my stay in the community. I got feedback from women who helped to expand my understanding of their politics. I heard about the ways some of them are becoming more engaged in the public discussion of the relationship between community and company, and about the difficulties they are overcoming to become active members of the local organizations. I also learned that one man read the performance with his wife and told her that these are the kind of things they do during their meetings. He told me he wanted to encourage her to participate. This time, I was able to meet more women who are participating in the public discussions related to the conflict, which is a sign of progress that women are initiating.

By initiating a conversation about gender inequalities and then going back to the community of Valle Alto to engage in new conversations with the community members to talk about their lives, I gained experience that taught me crucial lessons not only for my research, but also about my work and my personal experience doing fieldwork. Rather than looking for claims of knowledge, I was able to engage other people with whom I shared similar concerns. Thus, I have understood through this practice that my agency does not come from me, but from my capacity in the social, in the common vision that we share (Zerilli, 2005). As a result, I now understand that my agency as a

researcher comes through participating in collective actions, which is something that researchers find between analysis and action. These collective actions are spaces in between that may open new possibilities to tailor the social systems in ways that are not mandated by a productive system (Conquergood, 2000) and where all subjects are animated, human in all their capacities. “The more the oppressors control the oppressed,” says Freire, “the more they change them into apparently inanimate ‘things’” (2005, p. 59), which is part of the logic by which Los Pelambres can consider the nearby communities to be part of their extraction process.

The Measurement

According to Denzin & Lincoln (2011):

Qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry. Such researchers emphasize the value-laden nature of inquiry. They seek answers to questions that stress how social experience is created and given meaning. In contrast, quantitative studies emphasize the measurement and analysis of causal relationships between variables, not processes. Proponents claim that their work is done within a value-free framework. (p. 8)

Informed by this description, one of the lessons learned by experimenting with writing a performance was that attempting a new format to learn about a social process could pave a path for a discussion in terms that exceed the quantitative norm. I mention this because anytime the territory is discussed by

the company and community members, the conversation focuses on the quantitative data that shows the impact or lack of impact on the environment. To this day, the company measures the community in terms of productivity and how they can become assets of value for the production through a discourse of environmental sustainability, in which everyone becomes part of the mining process. In this case, the performance creates a space in which the intimate relations of the researcher can be used to advance the political discussion, using a discourse that is not solely reproducing the logic of a productive model.

There are many stories that are hidden behind the measurements, which from a feminist communitarian ethic should be included in a discourse that “represents multiple voices, enhances moral discernment, and promotes social transformation” (Christians, 2011, p. 71). In order to gain access to this sort of discourse, it is necessary to claim feminist theory and praxis as part of research; otherwise, research could end up as a mechanism that reproduces a logic that annihilates an agenda of social justice.

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CHAPTER 6

CONCLUSION

Over the last 40 years, Chile has gone through great changes; the country survived a dictatorship, adjusting to a new economical model that allowed Neoliberalism to slither in, settle, and grow strong. The mining industry has become full-fledged with the same force, supported by the country's central administration and global interest in commodities. By grounding the analysis of the technologies of mining production in communications studies, this dissertation has illustrated an expanded understanding of the technological dimensions of the mining industry, opening spaces of inquiry that otherwise would have been overlooked, such as the connections between discourse, public relations, and sustainability issues, or the relationship between the museums' architecture, vision, and nature as part of the process of expanding the system of mining production.

I started this dissertation by asking what technologies are present in the process of mineral production. This core question led to the exploration of different sites and mediums while following the process of mining. As this dissertation demonstrated, mining is an activity that exceeds the zone of extractive operations of a company, as commodities travel around the world and its productive systems travel through the boundaries of occupied territories. The fluidity of mining is reflected in the different types of technologies developed by the industry and the new productive spaces that emerge out of the process of production. Among these new spaces, we find old ones that have been

reconfigured and transformed into parts of the mining system, such as the Andes. The mountain has been narrated, described, and used by a history constructed by the company around it; scientific accounts of the conditions of the mountain are built to comply with the needs of the industry. Among the new spaces produced by the company are the mining museums that mediate the society's capacity to approach the industry, functioning as a medium to reconfigure the spaces that are heavily infiltrated by mining infrastructure and create the sense that the company's presence is a "natural" part of the environment. The mediation process in which the museums participate has a hidden economic and cultural agenda guiding the design of content and infrastructure. To understand the technological project that Los Pelambres has developed in the Andes, it is necessary to consider the infrastructure built by the mining industry. The company's installations, such as the museums or the iconic rock that is part of an exhibit, articulate the technologies of production as a message that is built up in a cultural infrastructure. The production of spaces that mediate the mining and the society serves as a process, overly exposing certain features and connecting them with specific value judgments.

At the beginning of this research, I approached the concept of technologies as methods used to achieve certain aims through the use of knowledge and. What the fieldwork demonstrated is that the technologies designed by the mining industry exceed the space of mining extraction. While the aim of the mining industry is to extract minerals and profit from them, the knowledge and tools used to achieve these goals are extended to areas of

society that are only remotely part of the extractive process. This is part of the reason why the term “extraction” has been replaced by the term “production” throughout this work, as a way to demonstrate that the extractive aim cannot be fulfilled by a mechanical action. There is the need of the mining industry to incorporate the local and national population, trying to produce subjects that are entangled in the central purposes of this economic sector.

Through the study of the Choapa Valley and the Los Pelambres mine company, three main technologies emerged: political, extractive, and popular. These three technologies are characterized by the development of their own knowledge and a set of skills that operate within the mining process.

Political technology is configured after the heritage of the dictatorship of Augusto Pinochet, which from a centralized state utilized neoliberal knowledge to transform society (Tironi & Barandiarán, 2014). Following the emergence of this technology, companies and the state promoted a technicalization of the decision making process regarding public concerns, leaving decisions in the hands of the private sector and limiting the role of the state to the creation of conditions that promote a flexible approach to capital circulation (Ong, 2006, 2012). This approach does not depoliticize the zone, but it justifies decisions under a neoliberal logic. In the case of the Choapa Valley, especially Cuncumén, after years of reaching out to local and national authorities, the community decided to directly approach Los Pelambres. This new relationship, in which the state is apparently absent, is the result of the actions of the state, such as the time Michelle Bachelet told community members that the current law didn’t allow her

to do more for the situation and she suggested the leaders to organize the community and prepare a proposal to present to the company.

Extractive technologies involve the objectification of nature as a primary productive space, reconfiguring its quantifiable parts and creating a memory regime that justifies a continual process of mineral production. Extractive technologies adjust nature to become conditional upon the human knowledge of it, while at the same time allowing nature to exert its own agency within the process of mineral production. Extractive technologies assume a position which embraces critical realism (Fairclough, 2006), by considering the way materiality, while socially constructed, is still not conditional on human knowledge. As an example of this, we learned about the case when Los Pelambres justified the presence of dust in the air as a natural condition of the Andes. We also see a company that claims through a scientific narrative its agency over a historical representation of the valley in order to justify its operations. As an example of this, we read in the report presented by the company to the Environmental Commission of Environment a narrative of the Andes that narrates a territory that is perfectly suited for the expansion of the companies operations under its tutelage (Gestión Ambiental Consultores S.A. & Minera Los Pelambres, 2003).

Popular technologies are the counter knowledge and skills developed by the resisting opposition to the homogenization of nature and society. Popular technologies escape co-optation by the mining industry and navigate at the edge of survival and new imaginaries of the Andes. For instance, see the mechanisms used by the local communities to break the informational blockage of Los

Pelambres, accessing critical information that destabilizes the hegemonic control of the Andes. The use of the local community radio is also part of a popular technology that OCAS uses to establish a new information platform, allowing for informed and critical discussion among community members and between the company and the local organizations of the valley. Together with platforms for sharing information, the historical experience that community members have in the resistance of the violation of their human rights have helped them master the technical process of mining production, as well as the technical language used by the company to explain the process. The development of these skills offers the local communities a platform of negotiation in which knowledge is not only in the company's control, but also on the side of the community members. As described in the dissertation, these skills and knowledge are mostly controlled by men, marginalizing women's participation in the process of making decisions for the future of the valley. Access to information is linked to historical processes, such as the division of the Andes between those who owned land and those without land and the gendered practices of distribution of property, or the prevalence of public meetings in which women do not participate in equal conditions.

Political, extractive and popular technologies are visible both individually and in concert with one another in the different mediums studied in this research, which are the local communities of the Choapa Valley, the zone of extraction inside the mine Los Pelambres, the museums operated or funded by the company, and local and national media outlets. To approach these sites as

mediums helps to expand the field of media studies, transcending the traditional understanding of media by incorporating these sites as spaces of knowledge and meaning-making that transform materialities and discourses. It is through this approach that, for example, we can make visible the way changes in language used in the valley mediate the material process of extraction. The new approach of addressing the situation as a process, instead of a conflict, comes from the discourse of sustainable development that Los Pelambres co-opted to reconfigure its operations. This new vision in how the company approaches the local communities - which addresses the community as a homogenous entity, ignoring for example the gendered experience - uses the sustainability reports as a method to fix reality and sediment history. However, the sensorial experience of the communities regarding their environment keeps creating a new sort of archive that keeps dissident discourses and materialities operating.

Through the study of museums, we learn how they function as a technology of mining by containing scientific records produced by the company and providing a materiality to the observers who learn about the process. The educational role of the museums is reinforced by Los Pelambres, which through the museums reaches a wider audience and consolidates a visual memory of mineral production as innovative, ahistorical, and harmless.

From a more traditional approach of media, we see how access to information and the management of media outlets perform a core role in the facilitation of the mineral process, by restricting vital information from the communities and managing the representation of the company in the public after

several wrongdoings in the operations. While at the same time resistant organizations, such as the “Organización Ciudadana Ambiental de Salamanca”- OCAS, use media outlets to provide access to information to the local communities and create informal means of communication to break the information blockage of Los Pelambres. These actions, together with the sustainable approach, have led to the creation of a communication committee in the valley that destabilizes the status quo and creates contradictions inside the company, which is funding the operations of the committee through the “Mesas de Trabajo” that were created after the social organization of the community following major environmental disasters in the valley.

Through this dissertation, it has been possible to understand some core lessons about the technologies of mining production; as a mode of a summary, the following is a list of key discussions offered by the chapters. First, the mining industry has reconfigured the meaning of the Andes, transforming the “simple” action of mineral *extraction* into a highly mediated action of mineral *production*. Secondly, the Andes as a territory has been invaded and co-opted by the mining industry, creating a mining space that reconfigures the local populations into assets of this process through the administration of a discourse of sustainable development. Thirdly, in this scenario, resistant knowledge and skills emerge fiercely against the invisibility of dissident people’s knowledge. Fourthly, the mining industry transforms minerals into fluid materials that navigate through different mediums as a way to overcome crises and generate wealth. And finally, to understand these complexities, we need to embrace a perspective that

observes local daily practices without forgetting the bigger global scope of the mining system. This is possible by articulating different methodologies, which from their different areas of action emphasize the pursuit of critical theory and social justice.

Methodologies for social justice: a revision of the practice

The methodologies used to develop this research were varied and complemented each other; to understand the operations of the methodologies is necessary to disclose the positionality of the researcher and the agenda of this work. Since the beginning of the research process (and even before that), I looked for ways to connect my scholarship with my desire to help build a more just society that enforces the exercise of people's rights. Following this desire, I had to deconstruct my own interests in the field, recognizing the power of the dialogical performance in the field and the vulnerability of my own identity in the valley. Through the creation of a performance, I allowed the methodology to create a space of change in which the issue of gender disparity found a venue to be discussed. This performance functions as a path toward the creation of extra-textual scholarship that engages the powerful knowledge created through the fieldwork with the local communities, who might find it useful for their own practices.

The following is a list of different steps implemented as part of the methodology that contributed significantly to the final outcome:

- Declare who you are and the reasons you do the work you do. It is important that you share your personal interest in this kind of research with the people you work with.
- Recognize the positionality and power that is entitled by the researcher. The status of doing research with institutional affiliations is important to recognize, not only to introduce oneself in the territory, but to remind the you that your positionality plays an important role in the theory that is being constructed.
- Be open to learning from different perspectives, not only the perspectives that are described in your books.
- Be sincere about friendship. To want to hang out with people from the communities you are studying is part of the work of someone who does ethnographic research, but it is different to fake friendship in order to facilitate fieldwork. You need to be sincere about personal relationships.
- Facilitate conversations where you can share your own history. If the people from the local community are subjects in the research whose knowledge is recognized, it is important to share yourself, and not only on a theoretical level.
- Share the results of the research with the community in different stages.
- Generate the necessary spaces to discuss the results.
- Translate the work as many times as needed. This not only makes the work more accessible, it also raises new concerns regarding the way knowledge is built in a different language than the language used during

the research. This will force you to acknowledge that the knowledge created needs to be built from a situated perspective.

- Listen first, then to ask questions. Many times what people want to share is more interesting than the questions that the researcher brings to the table.
- Keep fluent contact with the communities where you have worked.
- Do not promise something that you cannot fulfill. Sometimes in situations of crisis or conflict, people need to know that the work of the researcher is going to help to solve certain issues. However, the scope of the work — especially in academic and textual work — is not necessarily conceived to directly aid, but to understand certain situations. When the researcher recognizes that the scope of her work is not enough, there might be a chance to design new types of research outcomes, for instance extra-textual research that is more approachable and performative. The key is to find a way to develop research that engages the communities. From a performative perspective, this kind of research recognizes the value of the role of the communities in being part of the research not only as sources but as actors.
- Explain the scope of the research, but open the opportunity to imagine together what new forms could be designed out of the knowledge created.
- Ask from the beginning what are the interests of the communities regarding the research.

- Respect the local strategies; for instance if the community has certain channels by which they communicate with a company, it is important to respect those channels. If the researcher has other means to approach the company's management and addresses them without being open about this information with the local community, it could be taken the wrong way. The information shared by community members who live in zones of conflict is sensitive, and any leak of the local survival strategies could endanger local efforts, or even the well-being of a community member
- Be faithful to your research agenda. When, for instance, a feminist scholar who is working in a community where women are discriminated against, the scholar must not only highlight this in the research, but also incorporate this into the design of the agenda and as part of the discussions shared with the rest of the community. Keeping silent to avoid a confrontation with sources compromises the honesty of the work and goes against the pledge to be open with the community.
- Use the knowledge and tools that the researcher brings to the community to support local work toward the resolution of conflicts. There is a difference between taking control of the solution and offering the knowledge and tools that the researcher has to work together with the community. For instance, the community of Cuncumén needed assistance with their communications strategy to approach Los Pelambres, thus I was asked to help in this area. As part of the workshop I designed to work with

the community leaders, I incorporated a gender perspective in the analysis to demonstrate how the advancement of women' voices could help the whole communicational strategy.

These steps represent part of the work done to develop the multi-site ethnography, though some must undergo constant revision. Some of these steps are more of a goal than a conquered outcome, but without doubt they are an important part of the work accomplished over more than five years of research.

Because the dissertation is not the final outcome of the research, but a milestone of the PhD program, upon its conclusion I have now begun to explore new ways to create knowledge and diversify the audience for my work. For instance, I am starting to explore video game design and ways to create performative interventions of the narrative of the museums, while creating alternative archives of knowledge and memory. As part of the future work that this research has motivated, I also consider it necessary to expand my explorations to consider the convergence of media in the field. When I started my research in the Choapa Valley, the use of the Internet was very restricted, but this scenario changed dramatically in the last two years of fieldwork. This change is not reflected in the present study, but it needs to be addressed in future endeavors to expand this work.

All in all, the study of technologies of mining production has demonstrated that it is necessary to erase the opacity that hides power, as a way to create a more honest communication process between the different parties involved in the process of mining production. This first attempt should serve as a way to push

the conversation toward spaces that make power unconformable and the communities more relevant in the decision process that affects the fate of their life and environment.

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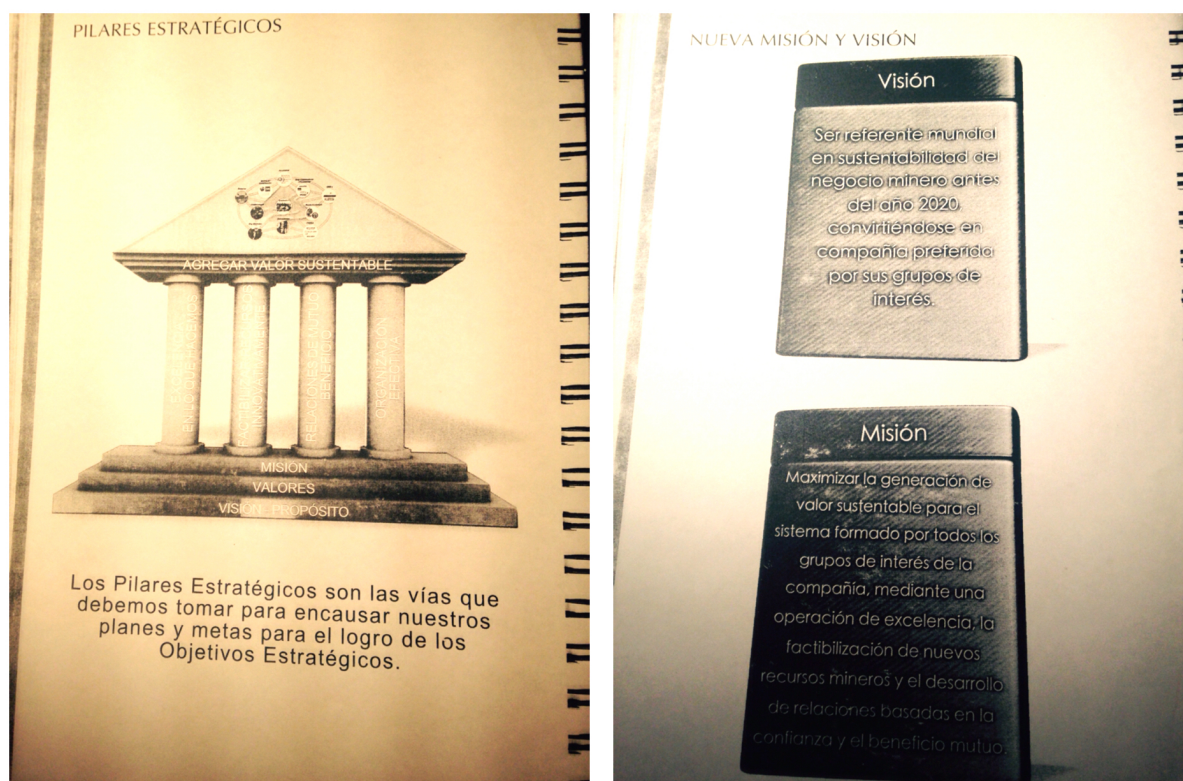
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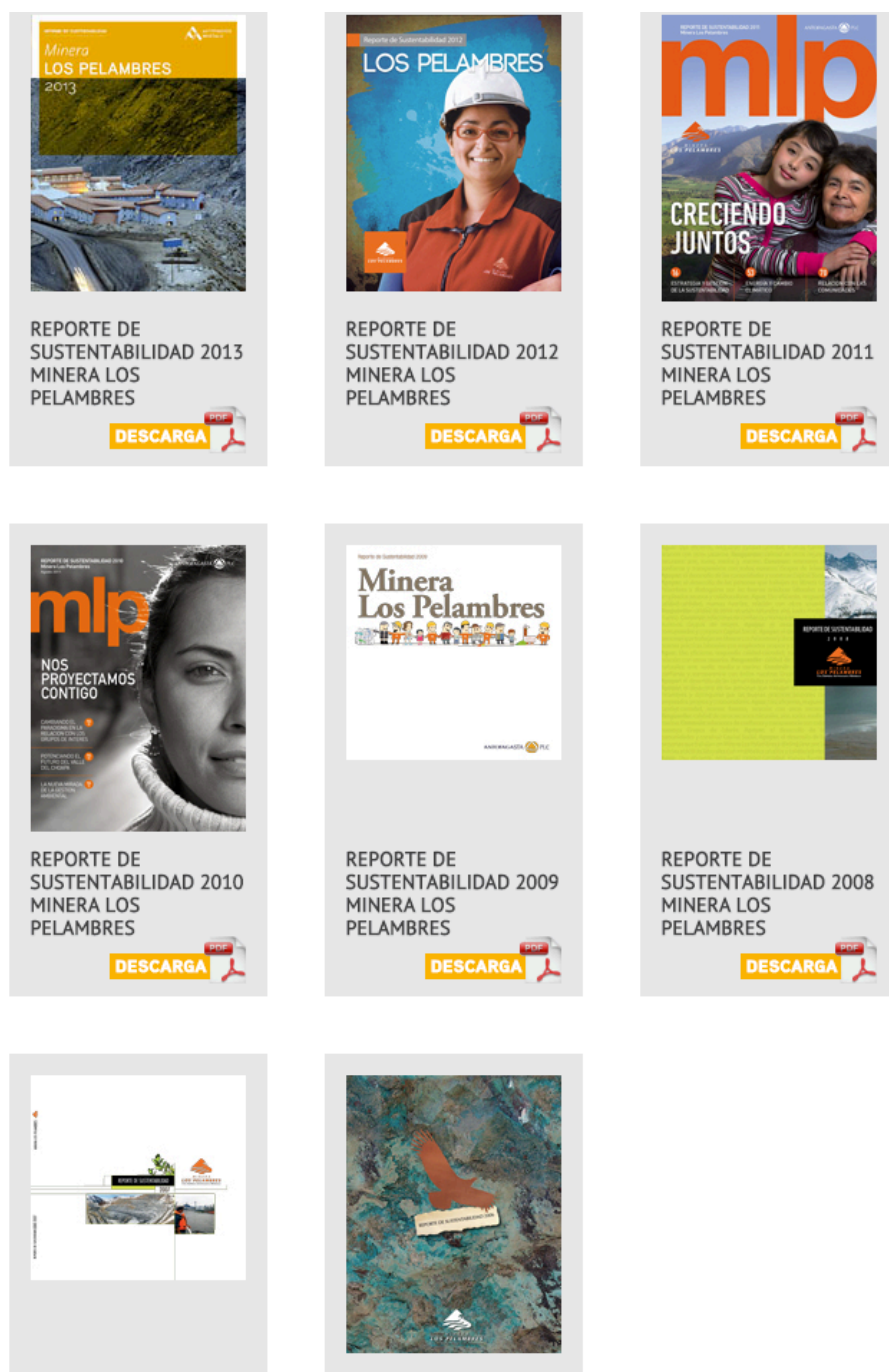
APPENDIX

Figure 1



Inserts in a notebook provided by Los Pelambres to a Community Member. They describe the strategic pillars of the company and the vision and mission. Source: Personal archive.

Figure 2



Covers of Los Pelambres Sustainability Reports since 2006. Screenshot from the company's website. Source: Minera Los Pelambres.

Figure 3



Back page, brochure offered to the museum's visitors of the Centro Andrónico Luksic Abaroa. The map describes the location of the company's dock in Los Vilos, the museum, and the zone of extraction of the mine. Source: Personal archive.

Figure 4



Museum at Centro Androniko Luksic Figueroa before the construction of a copper coated wall. Source: Minera Los Pelambres



Copper coated wall at the Centro Androniko Luksic Abaroa, Los Vilos. Source: Personal archive.

Figure 5



“Timeline of Copper” inside the museum at the Centro Andrónico Lusic Abaroa, Los Vilos.

Figure 6



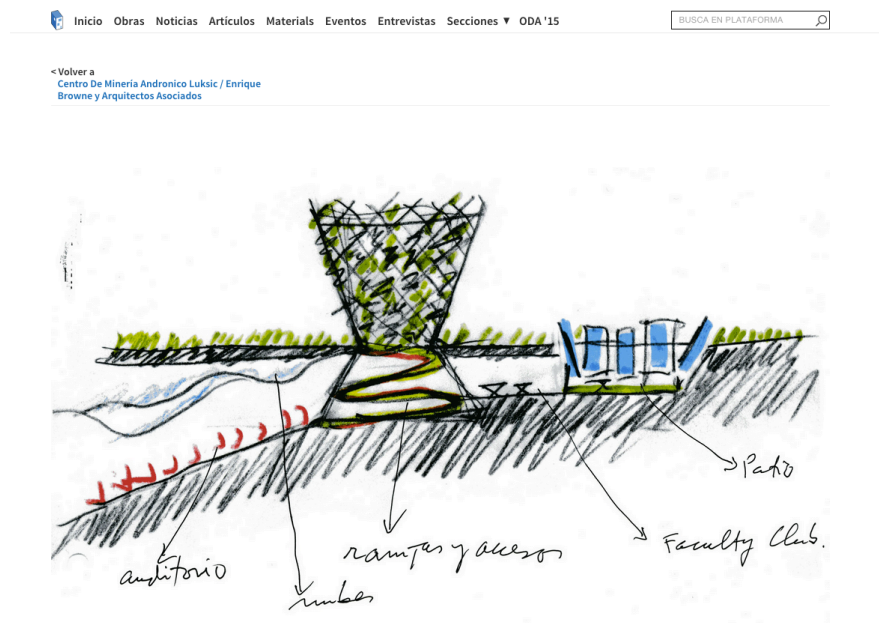
Inside the museum at the Centro Andróniko Luksic Abaroa. “Copper as vital connection”. Source: Personal archive

Figure 7



Brochures distributed to the museum's visitors of the centro Andrónico Luksic Abaroa, Los Vilos. Source: Personal archive.

Figure 8:



Mining Center Andróniko Luksic, Pontificia Universidad Católica. "Sketch Proposal 4". Image Enrique Brown. Source: screenshot from www.plataformaarquitectura.cl



Mining Center Andróniko Luksic, Pontificia Universidad Católica. Source: Personal archive.

Figure 9



View from inside the Mining Center Andróniko Luksic, Pontificia Universidad Católica. Source: Personal archive.